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ABSTRACT

This Compendium is a manual of information related to the vocational education of handicapped and disadvantaged students. Section 1, Article Series, reprints fourteen articles published in professional journals. Topics include vocational education's role in career education for handicapped students, personnel development, cooperation of special education and industrial teacher education, individualized education programs, measurement and evaluation, motivating and managing behavior, teaching safety, cooperative work-education, inservice, and individualizing instruction. Section 2, Handicapped Series, includes sections of the manual To Serve Those Who Are Handicapped. Materials address mainstreaming; student recruitment; vocational assessment; vocational counseling; career education programs; support services; individualized instruction; facilities, equipment, and materials modification; placement services; program evaluation; inservice education; and classroom procedures. Section 3, Disadvantaged Series, reprints segments from a book which deal with curriculum adaptations and teaching techniques found effective in working with disadvantaged students. The approximately twenty activities may provide students characteristics, activity description with potential advantages and disadvantages, facilities/equipment, instructional materials, and references. Section 4, Legislative Series, contains summaries of these major pieces of legislation related to serving special needs students: Vocational Education Act, Education for All Handicapped Children Act, and Rehabilitation Act of 1973--Section 504. Section 5, Newsletters/Brochures, provides two Network brochures. (YLB)

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C O M P E N D I U M

THE ILLINOIS NETWORK OF EXEMPLARY OCCUPATIONAL PROGRAMS FOR THE HANDICAPPED AND DISADVANTAGED STUDENTS

Edited by: CATHERINE BATSCHE.

OE 026 244

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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The **Compendium** is a manual of information related to the vocational education of handicapped and disadvantaged students. It is divided into five sections as follows:

I. **Article Series:** Permission was obtained to reprint several articles that had been published in professional journals. These articles were prepared by persons with expertise in vocational education for special needs students. The articles were selected to correspond to requests for information frequently received by the **Network** staff.

II. **Handicapped Series:** In 1975, Claire Olson Szoke and Sharon Vest developed a handbook entitled *To Serve Those Who Are Handicapped.* The manual was developed as part of a contractual activity with The Department of Adult, Vocational, and Technical Education, Illinois Office of Education. Sections of *To Serve Those Who Are Handicapped* were reproduced and are included in Section II of the **Compendium.**

III. **Disadvantaged Series:** This series of reprints was also taken from a book developed through a project with the Department of Adult, Vocational, and Technical Education, Illinois Office of Education. The segments included in the **Compendium** deal with curriculum adaptations and teaching techniques that have been found to be effective in working with disadvantaged students.

IV. **Legislation:** Some of the major pieces of legislation related to serving the special needs students have been summarized and are included in Section IV of the **Compendium.**

V. **Brochures/Newsletters:** Throughout the history of the **Network,** a variety of brochures and newsletters were designed and disseminated. Several of these materials have been included in the **Compendium** for your use. In addition, selected abstracts from the **Network Resource Catalog** have been included.

If you would like to receive periodic additions to the **Compendium,** please complete the form below and return the card to the Project Director at Illinois State University. Additions and revisions will be sent to you automatically.

We would like to thank the authors of the various articles and abstracts for their contributions to the **Compendium.**

The **Compendium** was developed pursuant to a funding agreement with the Illinois Office of Education/Department of Adult, Vocational, and Technical Education/Research and Development Section, 100 North First Street, Springfield, Illinois 62777. Opinions expressed in the **Compendium** do not necessarily reflect, nor should they be construed as policy or opinion of the State Board of Education/Illinois Office of Education.

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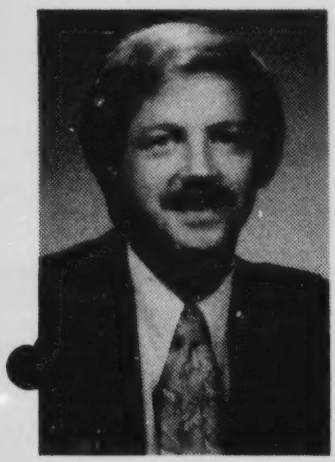
Teaching Special Needs Students: A New Challenge

Len Albright
L. Allen Phelps

ARTICLE SERIES



Providing equal opportunities in educational and employment settings for people with special needs has emerged as one of the major goals of the 1970's. It is a different ballgame, with new directions, expanded professional responsibilities and exciting, yet complex, new challenges for industrial educators.

Provisions for serving the special needs population were introduced through the 1968 Vocational Education Amendments. Priorities were established to provide special programs and services for handicapped and disadvantaged persons. Today, however, the emphasis has shifted from developing specialized programs to integrating special students into the regular class and lab to the maximum extent feasible.

A variety of social, judicial, economic and legislative forces has caused us to re-examine our perspectives concerning special needs students and alter our instructional strategies. The human rights movement of the 1960's has expanded to include the civil rights of handicapped citizens. On the economic front, we have begun to realize that we have underestimated the vocational potential of special needs persons and overlooked their contributions to our nation's work force. The influence of these factors is evident as one reviews the goals and provisions of three recently enacted pieces of federal legislation: (1) PL 94-142: The Education for All Handicapped Children Act of 1975; (2) PL 94-482: The Education Amendments of 1976 Title II—Vocational Education; (3) PL 93-516: Sections 503 and 504 of the Rehabilitation Act of 1973.

The implications of these legislative Acts are far-reaching and will undoubtedly affect educational and employment systems throughout the country. Industrial educators will need to be familiar with the major provisions of the Acts as they become increasingly involved in the education and employment of students with special needs.

Who are these students?

The phrase "special needs student" originated in the 1968 Vocational Education Amendments and includes individuals identified as being handicapped or disadvantaged. The 1976 Vocational Education Amendments offer the following definition of handicapped persons:

"The term handicapped . . . means persons who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, health impaired, or persons with specific disabilities who by reason thereof require special education and related services, and who because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance or who require a modified vocational education program" (Section 197.7).

The above categories of handicap are compatible with those set forth in the Education for All Handicapped Children Act of 1975.

Disadvantaged is defined in the 1976 Vocational Education Amendments as: "Persons (other than handicapped person) who have academic or economic disadvantages; and who require special services, assistance or programs in order to enable them to succeed in vocational education programs" (Section 197.16).

The common element in both definitions is the proviso that additional services (or assistance) are necessary in order for the person to succeed in the educational setting. Hence, the term "special needs students" commonly refers to both groups, implying individuals in need of special instructional services. The phrases "special needs students" or "students with special needs" are interchangeable and have become quite popular for they avoid the possible negative effects of labeling students as "mentally handicapped" or "disadvantaged." Instead, the learner is identified simply as someone who has a different set of instructional needs. This set of "special needs," be they a result of physical, emotional, social or learning difficulties, requires us, as educators, to: (1) iden-

tify individual needs, (2) modify our instructional programs, and (3) provide additional services in order to meet those needs. The individual with special needs is defined by what she or he requires from us within the educational setting and not by medical or psychological labels. This distinction becomes increasingly important as one reviews the new provisions contained in recent federal legislation.

How are they identified?

Students with special needs must be given objectively-based, individual assessments. Let's examine the legislative requirements for identifying disadvantaged and handicapped students.

According to the Vocational Education Amendments, disadvantaged persons must have an academic or economic disadvantage requiring special educational services (Section 104.804). "Academic disadvantage" means the individual lacks reading and writing skills, lacks mathematical skills or performs below grade level. "Economic disadvantage" refers to a student who comes from one or more of the following situations: (1) family income is at or below national poverty level; (2) participant or parent(s) or guardian of the participant is unemployed; (3) participant or parent of participant is a recipient of public assistance; (4) participant is institutionalized or under state guardianship. Clearly, academic disadvantage has a direct relationship to educational performance. Economic disadvantage is only assumed to affect educational performance adversely.

The Education for All Handicapped Children Act of 1975, which becomes effective this month (October, 1977), stipulates each school-age handicapped person must be given an individual assessment to determine his or her educational needs. Testing, evaluation procedures and materials must not be "racially or culturally discriminatory" and must be administered in the learner's native language or mode of communication. Further, "no one test or type of test or other means of evaluation" may be used as a "sole criterion for placement." Information and data describing the student must be collected from a variety of sources. Interpretation of evaluation data and subsequent placement decisions are to be made by a "team of persons knowledgeable about the child, the meaning of evaluation results, the placement options and the personnel available to provide special education and related services" (Section 121a.432). Similar assurances are also stated in Section 504—Subpart D, Rehabilitation Act of 1973.

Section 504, which was adopted last May, is designed to eliminate discrimination on the basis of handicap in any program or activity receiving federal financial assistance. Subpart B relates to employment practices while subparts D and E pertain to preschool, elementary, secondary and post-secondary education.

In what settings?

Clearly, the thrust is on serving special needs students in regular classroom settings, to the maximum extent possible. If special services are necessary for regular class participation, they are to be provided. All three pieces of legislation cited in this article echo this theme.

The term "least restrictive environment" is used in the Handicapped Act (PL 94-142) to mean ". . . to the maximum extent appropriate, handicapped children . . . are [to be] educated with non-handicapped peers; . . . special classes, separate schooling or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily" (Section 121a.440). Provisions within the Rehabilitation Act of 1973 also require all agencies receiving federal funds (which includesd almost all public and private schools) to have barrier-free facilities, fully accessible to and usable by handicapped persons.

The placement of special needs students within least restrictive environments will call upon schools to provide several program options and support services, ranging from placement in regular classrooms where minimal additional services are needed, to placement in separate, self-contained classes or institutions with extensive use of support services.

It is important to note that the concept of least restrictive environment does not imply the automatic placement of handicapped students in regular classrooms. This placement may only be selected if an evaluation team, which includes parents, deems it appropriate after careful and extensive discussions.

How are they to be served?

Customizing the instructional program to the individual needs of the special student has been, and continues to be, a major educational priority. "Each state and local educational agency shall insure that an individualized education program is provided for *each handicapped child* who is receiving or will receive special education, regardless of what institution agency provides or will provide special education to the ch (Handicapped Act, Section 121a.220). Furthermore, the local education agency is responsible for developing a written individualized education plan for every handicapped student at the beginning of the school year, or 30 days after the student has been identified as handicapped. The individualized plan is to be reviewed, evaluated and revised, as appropriate, on at least an annual basis (Section 121a.222). Parents/guardians must review the plan and give their approval. Due process procedures are provided in detail for the parent(s) or guardian(s) who object to the contents of the student's educational plan.

The contents of this individualized plan are to be very specific. It must include written statements describing:

- The student's present level of educational performance.
- The annual goals established for the student.
- Short term instructional objectives, which must be measurable intermediate steps between the present level of educational performance and the annual goals.
- Specific educational services needed by the student (determined without regard to the availability of those services).
- All special education and related services needed by the student.
- Special instructional media and materials needed.
- The date when those services will begin and lengt time services will be given.
- The extent to which the student will participate in regular programs.
- A justification for the type of educational placement for the student.

• A list of individuals responsible for the implementation of the individualized education program.

• Objective criteria, evaluation procedures, and schedules for determining, on at least an annual basis, whether the short term objectives are being achieved (Sec. 121a.225).

The mandate of providing a detailed individualized educational plan for each handicapped student includes *all* public school-age handicapped students, ages 3-21. Such plans are not mandated for the disadvantaged within the 1976 Vocational Education Amendments. The authors of this article, however, believe that individualized programming is a key ingredient in any instructional program serving students with special needs. The individualized educational plan, as described in this section, represents an important strategy for addressing individual student needs. Therefore, adopting this plan for serving disadvantaged learners is highly recommended.

Funding and compliance

The 1976 Vocational Education Amendments mandate that each state must spend at least 20% of their federal vocational dollars for disadvantaged persons and 10% for handicapped individuals. State and local education agencies are now required to match the federal special needs funds on a 50-50 basis. Since most states were not equally matching these funds in the past, this new provision should result in a considerable increase in the amount of federal/state-local dollars for the vocational education of special needs persons.

The Education for All Handicapped Children Act, hailed the "Bill of Rights for the Handicapped," sets out to make certain that all handicapped children are provided a free and appropriate public education. "Free and appropriate education" means special education and related services are provided at public expense, and are provided in conformity with the required individualized education program (Section 614a.5).

The Handicapped Act authorized expenditures of $387 million in 1977-78 to state and local educational agencies and $3.16 billion by fiscal year 1982. Historical precedents suggest that it is unlikely Congress will actually appropriate monies to these authorized levels. However, one thing is clear—this Act is comprehensive and it is mandatory. As a condition for receiving monies states must demonstrate to the U.S. Commission of Education that they have established procedures to insure that handicapped students are guaranteed certain basic rights and protections (PL 94-142).

Seventy-five percent of the federal funds available are to flow directly to local schools. These funds are to be used for the "excess costs" involved in providing additional services for handicapped students. State and local funds will be needed to pay for the basic costs associated with educating all students, including handicapped.

If a state or a local education agency elected not to apply for monies available from the Handicapped Act (which is very unlikely), they still would need to meet the basic rights provisions under Section 504 of the 1973 Rehabilitation Act. The provisions related to educational programs in Section 504 are consistent with those established in the Handicapped Children Act of 1975. Enforcement of Section 504 is administered by the U.S. Office of Civil Rights.

Outright non-compliance with the law could be costly. If, after reasonable notice and a hearing, the U.S. Commissioner of Education finds that a state or local education agency fails to comply substantially with any of the provisions, funds allocated under the Act are to be withheld. Funds earmarked for the handicapped under the 1976 Vocational Education Amendments could also be jeopardized.

The Handicapped Act is permanent legislation, and does not have an expiration date. This is only the second piece of educational legislation not to require periodic reauthorization. (The Smith-Hughes Act was the first.)

Summary

The preceding sections have highlighted many of the major provisions within recent federal legislation. Together, these Acts represent a comprehensive national commitment to expanding and improving educational and employment opportunities for handicapped and disadvantaged individuals. This article has focused on the legislative mandates with which industrial educators as well as other educators are confronted. Similar requirements are being placed on employers. Under Section 503 of the Rehabilitation Act of 1973, employers with federal contracts or subcontracts exceeding $2,500 must have affirmative action plans to recruit, employ and promote "qualified" handicapped workers.

It is too early to assess the full implications of this legislation. However, two major observations can be made.

1. The professional challenge confronting industrial education teachers, coordinators, administrators and teacher educators is indeed significant. Among other changes, the challenge will require that:

• Industrial education teachers work effectively with a broader range of student abilities, participate in planning individualized educational programs, use appropriate nondiscriminatory instructional materials and tests, and work closely with special education and remedial teachers and counselors.

• Industrial education administrators provide a variety of industrial education program options, including special classes and special equipment if needed, coordinate program planning with special education administrators, identify appropriate community resources to assist special needs students in industrial education, and organize appropriate inservice activities to assist and train teachers.

• Industrial teacher educators strongly encourage or require their students to obtain competencies for teaching special needs students, modify present methods, curriculum and evaluation courses to include discussions of the special needs learner, assist local schools by providing staff inservice workshops, and closely coordinate the development of courses and special programs with professors of special education and counselor education.

2. Greater numbers of handicapped and disadvantaged students will participate in industrial education classes at all levels. Statistics compiled by the U.S. Office of Education indicate that in 1974-75 handicapped students represented only 1.7% of the total enrollment in vocational education programs. The disadvantaged represented 11.6% of the enrollment. The costs to society of *not* providing an appropriate vocational education are also substantial. In 1971, it was estimated that the cost of supporting a disabled person with institutional care over a lifetime was in excess of $250,000. The societal costs associated with welfare payments,

rehabilitation, and an underutilized work force also have to be considered.

Finally, it is important to note that industrial educators have historically served many students who were not college-bound and who may have encountered difficulties in the academic classroom. Some of these students could be regarded as special needs students. With less emphasis being placed on the general curriculum by parents and counselors, industrial education is being asked to serve a much broader range of students. In the foreseeable future the most significant challenge will be to provide to *all* students meaningful industrial education experiences which are planned around the individual, unique needs of each learner.

This article is one of a series that appeared in *Industrial Education Magazine*, October, 1977.

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Vocational Education's Role in Career Education For Handicapped Students

Gary D. Meers
Charlotte Conaway

Vocational education's role in career education for the handicapped, stated in its simplest form, is to provide experiences whereby the handicapped students are trained for gainful employment. In the past, many parents have held a negative image of vocational education because they wanted "something better" for their son or daughter than they themselves had during their education and work years. This "something better" was associated with a college education. Administrators often viewed vocational education as a "dumping ground" for students judged to lack ability in academic education. By placing these students in a vocational education program, they were out of the mainstream of the academic program for three-hour blocks of time with little if any thought given to their vocational aspirations or aptitudes.

By providing longitudinal experiences for both students and parents, the career education movement has done much to eliminate this negative image. In addition, career education has provided a basis for more realistic career decisions and increased acceptance of vocational programs. This is not to say that the negative image problem has been totally eliminated, but the problem has been minimized. With increased visibility and acceptance for vocational education and more informed career decisions, greater emphasis must be placed on programming for total student involvement.

The educational rights movement for the handicapped has also influenced the expansion of vocational education's role. Public concern grew to the point that federal legislation entitled the Education for All Handicapped Children Act of 1975 (PL 94-142) was passed. This legislation specifically outlines the rights of the handicapped to quality academic and vocational education. In addition, vocational legislation in the form of the 1976 amendments to the Vocational Education Act of 1963 set aside specific dollars for vocational programs for the handicapped.

Vocational Education's Role

There are five basic components of vocational education which affect its role in the career education process of the handicapped. They include vocational teacher preparation, educational planning teams, coordination of services, physical modifications, and educational programming.

Vocational Teacher Preparation

Vocational teachers have had a commitment to provide educational experiences to *all* students. Many times in the process of program placement, scheduling, and other teaching duties, this commitment has slipped down the priority list to the point where handicapped students have been omitted from programs, or, if admitted, isolated within the classroom. The vocational teachers' lack of preparation to teach the handicapped effectively has possibly been the major contributing factor in the low priority given to including them in vocational education programs. With the enactment of the Education for All Handicapped Children Act and the Vocational Amendments of 1976, as well as the increased public advocacy for the rights of handicapped persons, this neglect will no longer be tolerated.

Many teachers, including vocational teachers, have preconceived ideas about the handicapped. Many vocational teachers have not been provided the opportunity to gain personal experience in teaching and working with handicapped students. Strong administrative support and comprehensive inservice educational activities are needed to orient vocational teachers to the needs, interests, and abilities of these students with special needs. University coursework in the vocational education of handicapped students also needs to be a priority for those in preservice teacher training programs.

Educational Planning Teams

As vocational education teachers assume their role in career education of the handicapped, they must become a part of a comprehensive educational planning team. This team will assist in the development of the student's educational plan and coordinate the educational experiences of handicapped students. The educational planning team should consist of teachers, administrators, and counselors, as well as psychologists, social workers, rehabilitation counselors, and other appropriate specialists.

Vocational teachers do not have, nor should they be expected to have, all the skills and expertise necessary to work with all handicapping conditions. What they do need is the knowledge of where and how resources can be secured to assist them. The educational planning team can assist in this effort. Vocational teachers will become aware of the resources available from the special education teacher, resource teacher, speech therapist, counselor, school psychologist, and other team members.

Coordination of Services

An important component that will affect vocational

education's role in career education for the handicapped is the coordination of the wide variety of services available to such students. Vocational teachers and administrators need to be aware of the kind and number of services in order to coordinate them for maximum benefit to handicapped vocational students. These efforts will reduce the incidence of multiple placement, duplicate services, and student confusion.

Physical Modification

The excessive cost of making modifications to laboratory equipment is an argument often used for the exclusion of handicapped students from vocational classes. Vocational teachers often find that the only modifications necessary are raising desks, lowering benches, or arranging tools in a specific and set pattern for easy identification. Consultation with various state and national agencies will provide the information necessary to make the required physical modifications within the vocational setting.

Educational Programming

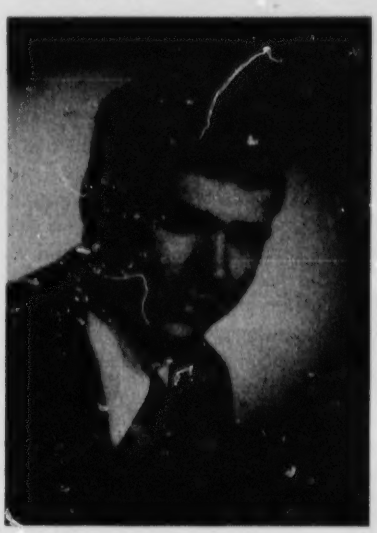
Vocational education's role in career education for the handicapped requires careful and concise educational programming. The total educational planning team must coordinate its activities toward the goal of each handicapped student acquiring a salable skill in an occupational area. Upon acquiring a salable skill, the handicapped student should be placed on a work site that is compatible with his/her vocational expertise. Since gainful employment is the expected end result of vocational training, the analysis of job sites, student placement, and employer satisfaction must not be perceived as an add-on role, but one crucial to total program success.

Personal Development of Handicapped Students

Personal characteristics of students are an important but often neglected consideration in vocational preparation. Vocational educators must include in their teaching/learning sequences opportunities and experiences that will allow students to strengthen those characteristics that are complementary to the job and minimize those that are not. The vocational teacher, in an effort to provide all the necessary skill development, experiences, may overlook the important part personal characteristics play in the employment success of individuals. Personal characteristics such as self-expression, sociability, work independence, appearance, and cooperation can be demonstrated, practiced, and utilized by students throughout the training program.

Conclusion

Career education is for *every* student. Vocational education is for every student desiring to learn a salable skill requiring less than a college degree, and who can profit from this kind of learning experience. Handicapped youth can profit from vocational education if provided the opportunity. The vocational teacher's role is to provide the learning experiences so that self-direction and job fulfillment through gainful employment are within the grasp of this challenging, unique, and worthwhile population.



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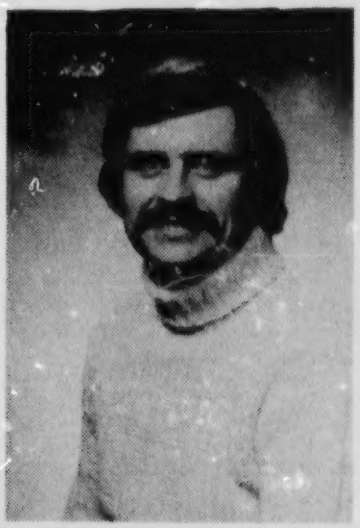
Personnel Development for Meeting the Special Needs of All Individuals

Robert M. Tomlinson
John N. Fabac



Probably the most difficult challenge faced by all persons in attempting to develop approaches to serving *all* of our youth (and adults) is to develop new, or at least different, ways of thinking. This challenge to think in new ways must be met to some degree before we can implement the kinds of programs, services and individual performances that are called for in the recent legislation and court decisions.

This article focuses on "teacher education." However, the term teacher education itself immediately conjures a variety of images based on prior individual experiences, current position and past practices e.g., pre-service, inservice, creditdegrees, special education or industrial arts or vocational education, on-campus or off. Most references to teacher education are to the processes used rather than to the ultimate goal or criterion to be obtained, that of a capable and effective professional working with individual students. Therefore, this article will be oriented around the more broad concept of personnel development. The simple truth of the matter is that most teacher education, including both the teacher educators themselves and the organizational structure within which they function, is in a no better position to meet the needs of practicing educators in the area of special needs students than local schools are to meet these needs with operational programs.

Essentially all reports, legislation and studies cite the extreme shortages of personnel who have an appropriate background to work with individuals who have special needs; a possible exception is the supply of teachers for segregated special education classes at the elementary level. These same sources cite the need for teacher education as being the number one priority. The established teacher education systems can help. However, personnel development at all levels and of all types on a much broader scale than anything that has been utilized in the past is necessary to meet the current challenge.

The right of *each individual* to an "appropriate" education has been an expressed philosophical position by essentially all concerned with education. Recent court decisions and legislation now specifically mandate that the philosophy will become a reality. We have many examples that changes in legislation do not result in changes in the attitudes of the "public." Teachers and teacher educators do not have the privileges of the "public" in the assurance of appropriate education for all individuals; they profess to be professionals and therefor each has the obligation to facilitate his/her own professional development. Changes in attitude to supporting the right of each individual to an appropriate education is probably the greatest single need today. It is the first, necessary step in professional development in this area.

There is an emerging body of literature concerning special needs students; much of it focuses on the regulations whereas other parts focus on personnel development. The summer 1977 issue of the *Journal of Industrial Teacher Education* and the reports from the National Vocational Teacher Education for Special Needs Students Workshops contain many good articles concerning teacher education. A primary theme is the need for special educators, vocational educators, regular educators and others to initiate joint or collaborative efforts in personnel development. In the past each has operated as an independent group with their own constituencies. No one group has an adequate background or the resources to meet the challenge; new relationships and types of personnel will need to be developed.

Articles in this and other issues of *School Shop* as well as the series starting with the October 1977 issue of *Industrial Education* should also prove of value to industrial education teachers. Other selected references are provided at the end of this article. The remainder of this article will attempt to

develop a framework for personnel development.

Historically, and for the most part currently, teachers have been prepared to teach particular kinds of subject matter in a particular kind of setting. Students were sorted into groups, on known criteria or otherwise, and assigned to classrooms and laboratories. This sorting and grouping process has been less than desirable in meeting the needs of many individuals as well as for many of their teachers. Many industrial education teachers have attempted to identify and meet the needs of these individuals in their "regular" classes—by adaptations of materials, equipment, teaching strategies and by seeking help from outside resources and persons. Other concerned teachers have helped to initiate modified programs or separate specialized classes and laboratory settings for groups of individuals whose needs were more significantly different from those who could be accommodated in the regular classes.

Over relatively recent years most states, and local school districts, used the traditional grouping pattern and created segregated special education classes to serve some of those students with identified special needs. Students were identified and assigned to classes based on some psychological, medical, physical, social or other criteria. To encourage the offering of such classes, many states provided additional financial incentives; consequently, almost every student who met the established criterion was assigned to the specially funded group. Most such classes were established for elementary age students and teachers were prepared to teach elementary school materials to individuals with a particular handicap. Relatively few classes or programs were offered for secondary age students. For example, in Illinois it is estimated that less than 25% of those in elementary and junior high level special classes ever attend a high school level program. Reaching the age of 16 has provided a miraculous cure for those who earlier had been found to need something other than a traditional regular program. Apparently, this cure also applies to the approximately 20% of the total age group who do not complete high school.

Where secondary level special education programs were provided, career and vocational education was an important component—often offered by the special educators even though they were not prepared to do so. In theory and philosophy, those in special classes were to be "integrated" or "mainstreamed" into regular classes wherever "appropriate." Unfortunately, in practice, far too many undesirable experiences have resulted—many students from special classes have been "sent," or "dumped," into regular classes, including industrial education, without proper planning and exchange among the teachers concerned.

Teacher education programs have paralleled the educational programs offered in the public schools. The universities have prepared individuals to teach industrial arts, woodworking, manufacturing and other areas and have also prepared elementary level teachers of the visually handicapped, mentally retarded, etc. Administrative structures and funding arrangements have emerged and became fixed to support this traditional delivery system which is the established way of thinking about providing industrial education and special education and who should be or should not be served by the public schools. Just as many students have not been served by programs in the schools, students in one type of teacher education program have not been provided a background to work with students or teachers in the other fields. Changes in teacher education are as badly needed, and will be as difficult to achieve, as changes in local education settings. Changes at all levels, local schools and universities, are dependent on changes in our ways of thinking and the initiation of personnel development in support of these new ways of thinking.

Recent legislation and court decisions have clearly indicated that the old ways of thinking and doing are no longer adequate. In the most fundamental sense these legal actions are entirely consistent with the stated philosophy of educators. They very directly require us to make good on our own philosophy: Each individual is unique and has his/her own set of needs, and each individual is entitled to a "free *appropriate*" educational program. The educational delivery system must be modified and expanded so that it can not only determine the special needs of each individual but design and deliver an "individualized educational program" to meet those needs. Sound programs can result only where they are supported by those who believe in such an approach and have the competencies to carry them out.

Meeting the individual needs of special needs students does not mean that existing, quality programs and practices will be terminated or damaged. It does most likely mean that some adaptations will need to be made so that additional individuals have access to and gain benefit from those programs and practices. In addition, some programs or settings may be significantly modified and still other new and different specialized programs developed to meet the needs of other individuals. It is quite likely that a number of teachers reading this article would like to make a number of changes in their current program to make it more "appropriate" to the needs of the individuals presently enrolled in their class. The changes in thinking and practice resulting from approaches to better serve *individuals* with special needs probably will result, in the long term, in the improvement of educational programs and services for all students; this has already occurred in a number of situations.

An approach which is focused on identifying the needs of individuals and then the development and delivery of an educational program to meet those needs will require the active participation of a number of professionals functioning on a team basis. All teachers, industrial/vocational, special and regular, will be involved at least to some degree. A higher level of interchange than exists at present will be required among these teachers and other support and specialized personnel, e.g. psychologists, counselors, media and materials specialists, placement personnel. Individuals in each of these areas will be called upon to become more knowledgeable about the services and contributions that can be provided by the others and how best to work with each other. Each will have to improve existing competencies and gain some additional ones to better meet the needs of individuals who are participating in their program or who need their services.

In addition to sharpening and expanding the competencies and working relationships of existing personnel in the schools, there is a need for specialists who possess skills different from those held by persons now being prepared or typically employed in the schools today. These include Assessment personnel who can help to determine the needs and abilities of individuals so that appropriate educational plans and placements can be made. Resource personnel who

are able to work directly and concurrently with the classroom teachers and the special needs student so that the student can be successful. Community outreach and placement personnel to facilitate both training and placement in employment. And, personnel of various types to staff specialized programs for those with more extensive or specialized needs. Some persons with more traditional preparation (e.g. industrial education, special education, rehabilitation, counseling) have already gained additional preparation and experience and moved to these new roles; others will *choose* to do so. Past experience indicates that those individuals with the greater ability and who gain satisfaction from a challenge will be more likely to move to these new roles. The reward system may need some adjustments to give recognition to those who are meeting this challenge.

Some universities are making changes in their personnel preparation and inservice programs to meet these needs. Some are making possible, or requiring, their regular teacher education students, including those in industrial education, to take a course(s) concerning, or to gain experiences with, special needs students. Some special education departments are initiating programs for secondary level teachers (practically none exist at present). More programs are emerging where a student can gain preparation in both special education and industrial education (or other fields). Some programs are under development to prepare resource persons who are generalists in special education and prepared to work in direct support to classroom teachers. Other programs are beginning to prepare personnel to work with the severely and profoundly handicapped.

The combined output of all of these programs and others to be initiated will not only be far inadequate in numbers but not available until some years in the future. The bottom line message is unmistakable—the extent to which the needs, and mandates, will be met in the foreseeable future is directly dependent upon the personnel development of teachers and others now in the field. Further, the teacher education faculties with appropriate preparation to provide all of the needed inservice activities are woefully inadequate. New strategies will have to be developed for identifying these individuals who can make a contribution to personnel and program development and for making it possible for these persons to share their areas of expertise with a large number of others.

Since the delivery of services to students will require a team approach, the personnel development activities will also require the involvement of persons from different backgrounds and specialties. Many of these activities will, of necessity, have to be initiated and carried out on a local system basis. If changes are to be made in the local delivery system, each person concerned must know how they are expected to function as a part of that system. Gaining a better understanding of, learning from, and learning to work with each other, will be an important part of developing quality operational programs. Teacher educators and state office personnel can provide some of the personnel development activities and serve as resources, provide coordination or function as a catalyst for others; they cannot achieve the results themselves. Success will be dependent on the actions of individuals.

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Who Are The Special Needs Students and How Can Special Education and Industrial Teacher Education Work Together and Help Them

James A. Sullivan

In the early 60's, I thought that every capable person should learn auto mechanics or small engine mechanics, or both. And to that end with an understanding superintendent, I began systematically to teach day trade students, night adult students, boy scouts, 4-H club members and all the driver education classes in Wicomico County, Maryland, Senior High School, using ordained students who held the credential "Student Doctor of Motors" (from the Perfect Circle Ring Corporation).

I had not given much thought to priority to the special education needs students across the hall, partly because they were given one of my store rooms, and partly because I thought they were inept. It was also relatively easy to ignore their teacher, Mrs. Eckas, until she began camping at my door wanting things, and worse, wanting my involvement. Locking the classroom door (which I learned to do early in my teaching career to keep out stray visitors) really didn't help much. When I opened the door, there she was with that longing look on her face. Sometimes she would have a student with her holding something from a car which had already made him greasy, and that was destined to be taken apart further and labeled. Anyone who knows anything knows that isn't the way to learn about automobiles.

At about that particular time, it would have helped some if she had been younger and prettier because, though dedicated to my mission, I was still single. It seems humorous now, but it wasn't then. She wanted something, and I didn't want to give it to her. First, she wanted *in* with her student, and then she wanted a commitment from me to help the bugger. She never quit. Some years later when we opened the area center, there she was again, wanting pre-vocational classes for all grade nine special education students in the county and access to the bussing system to accomplish that fiendish plot. She finally had her way. We did it all, everything she asked, near the end almost without resistance.

Two of Mrs. Eckas' students were Elmer Wilgus and Tom . . . something or other. They were fifteen. Neither could read or write and their best friend was Mrs. Eckas whose self-appointed mission was to teach them general studies and a vocation, place them on a job and supervise them, counsel them through school and pre-post marital problems, and then place her label on them as *hers*. Damn, she was really obsessed. Nick, my master teacher up the hall, and I used to think that she was crazy.

Tom had an additional problem. He couldn't or wouldn't smile. I let him in first. That made fifteen smiling students and one who didn't. Tom was big, about six foot two and 190 pounds, and hard as a rock. The plan was to give him nonsense work and when he cracked, send him back to Mrs. Eckas. And that would be the end of that! His first project was to polish a No. 2 shovel to a satin finish, varnish the handle and trim it in red. Man was that a handsome shovel! It was hung on the wall of the tool room for all to admire. Discipline problems used it outside sometimes. The next project was to polish a government surplus half-inch drive speed handle to a high lustre. Tom did six of them, enough for the whole shop. Then we tried polishing an egg-shaped crankshaft round that was rejected from a German engine that went with a car called a Goliath. Well, Federal Mogul Corporation poured us a bearing for that odd sized but round crankshaft, and I assembled the engine and drove the car for 40,000 miles. Tom wouldn't crack or quit. Mrs. Eckas was still at the door grinning. She wasn't allowed to violate the sanctity of the shop (something about loose clothing and safety), so she stood at the door sometimes . . . always grinning if one of whom she termed her "little devils" was inside learning about the mysteries of automobiles or small gasoline engines.

So far, for my involvement, I had a commemorative shovel, six speed handles, a German Goliath to drive (not to mention several brass hammers) and almost zero effort in the project. Some of my students, however, were giving me what used to be termed "the eyeball". That translated into a loss of esteem for me. Just remember, I was the master—even a full-fledged "Doctor of Motors."

About that time, Terry Troudeau of Buffalo, NY designed a small engine dynamometer. It was a water brake right out of a physics experiment and everyone had to have one. Located up front so every student could see was a six-inch round, pound-force scale. In fact, the trade dubbed the dyno, the meat scale because the torque arm pulled the force scale, just like at the butcher shop. What we noticed about the demonstrator was that when the engine didn't start or idled roughly, it kicked back and dismantled the meat scale, scattering linkage and other parts across the floor. That simply wouldn't do. So we set about to design our own dyno, one with limited arm travel and an air cooled brake that wasn't dependent upon the umbilical cord which transported the water supply. Tom was given the task of turning the

aluminum friction brake on the lathe (all respectable auto shops have an engine lathe), which he did exceedingly well. I still have it. Tom still wasn't grinning, but the eyeballing from my students stopped. I was now back in firm control.

The class was beginning to become impatient. Someone reckoned that if the tool man showed the Briggs and Stratton slides and read the script, Tom could learn to rebuild lawnmower engines. Tom agreed, and Mrs. Eckas, still grinning, wanted to put someone else at Tom's work station at the lathe. "Hell no, not now!" Tom looked at the slides and argued with the tool man for a couple of weeks about which words went with which slides and then we got a mower to rebuild with a shortblock assembly. Now the tool man was hooked. At each step, Tom had to see the slides and hear those directions, over and over while the job was done. One day Tom got up his nerve to approach me directly and said, "It's done." I believed him. Likely the engine was done forever. The tool man put in the gasoline and oil and the class began to migrate to where Tom and the mower were to see what was going to happen. For some reason, nobody was smiling. I'll never forget the look on Tom's face as he bent down to pull the starter rope handle. He was as confident as the President of Briggs and Stratton Corporation that it was going to start. And I'll be darned if it didn't on the very first pull. Then as the engine hummed, Tom smiled. In fact, the whole class smiled and shook their heads in disbelief. Tom sure didn't know, or wasn't supposed to know, what went on with that engine. But there it was, start to finish, and without help turning the wrenches, running. What we didn't notice until we heard the whining noise was that the blade was eating away the toe of Tom's shoe. Someone pulled his foot back, unhurt, and we stopped the engine. Everyone, including Tom, laughed. Tom had made great progress but the treatment was not a permanent cure. What we forgot for an instant was that Tom learned only one small step at a time and these had to be supervised. Tom made many other projects. He also had acceptance in the class. I haven't followed Tom; the job still isn't finished, and someone, hopefully, is still working with him. Mrs. Eckas is gone. But some of Tom's projects aren't gone. I saved them. And for inspiration, they occupy a prominent place in the study.

WHO ARE THE SPECIAL NEEDS STUDENTS?

Perhaps now would be the time to become more definitive about who the students are and what special education and industrial teacher education might do to better identify and help them.

Special Needs Learners are those who are having difficulty in school and for whom a special prescriptive program is necessary. Although "special needs" and "handicapped" are often used synonymously, since special needs implies a handicap in school (Clark and Evans, 1976), it seems inaccurate to state that the converse is true, i.e., that a handicap always implies a special need which cannot be overcome without special prescription or intervention. Except for claiming funding under PL 94-142 or PL 94-482, they are not one and the same.

More specifically, special needs learners may be defined as those who are having difficulty succeeding in the Industrial Arts and Vocational-Technical programs due to the effects of a physical or mental disability, disadvantagement or dysfunctional school placement (Phelps, 1970).

Perhaps more importantly, special needs learners are the Toms and the Elmer Wilguses across the hall who have been identified as having difficulty. And some of us, at least, must be willing to make a commitment to accept and work with them toward resolution of their challenge. The emphasis here is on *commitment* by a teacher who willingly *accepts* the student in class. (This reflects the bias of the author.)

It also seems appropriate to define special needs learners with the perspective of the students' special program in focus rather than putting the stress on the student's deficiencies or disabilities. This does not negate the importance of the student's unique difficulties, but rather it directs attention to the remedial and positive attributes of a prescriptive program required under the law (PL 94-142), rather than upon the deficits the student brings together with the negative connotations associated with a state of being which is less than whole (Phelps and Wentling, 1977).

While no agreement has been reached as to firm numbers of students who might be served, some seven-million have been identified by the National Council for the Handicapped. It is the author's opinion that as many as 25 percent of some public school populations might be so defined in a constructive hypothesis to increase the probability that those who are special receive the attention they deserve but have not received. This might also have a positive effect upon teachers whose inclination it is to resist mainstreaming, the present circumstance of many marginally deficient students who have been socially promoted rather than constructively taught in our public school classes in the past.

In shop classes, which are defined as those which include a facility for making projects and conducting testing procedures, it seems likely under the present two or three track academic system in high school that the mildly deficient actually receive better attention than from the school curriculum in general. As a rule, the severely deficient have been rejected as incapable, inept or dangerous to themselves around machinery and tools. The author prefers the word *shop* in that it is flexible enough by definition to be well understood.

IN WHAT WAYS CAN SPECIAL EDUCATION AND INDUSTRIAL TEACHER EDUCATION WORK TOGETHER TO IDENTIFY AND HELP THEM?

The Question of how special education and industrial education might work together to identify and serve special needs students offers industrial education a promising opportunity. In paraphrasing the following recommendations, it must be remembered that Elmer Wilgus and Tom are no longer intruders from across the hall. They have access to free, appropriate and individualized education by law to meet their specific needs. The knotty questions remaining to be answered are: who wishes to serve them, and how will cognizant groups work together to maximize the effect of the individualized services provided.

Toward this end, it is recommended that industrial teacher education programs consider options for their students in the following categories:

1. Cross appointment of faculty who teach in both programs

2. Cross-majors who take courses in both programs
3. Cross listed courses in both departments
4. Common general purposes shop facilities where faculty and students can work together
5. Joint departmental libraries housing literature sources which profile the potential student, identify and categorize the many testing procedures used to identify strengths and program options for them, and information sources which categorize files of projects which have proven successful in teaching a wide array of identified and useful skills.

Finally, at both the pre-service and in-service activity levels, it seems important that we give attention to strategies to neutralize what seems to be a natural bias among industrial education teachers to exclude less than able special needs students from their shop classes and elevate standards to unrealistic levels, ostensibly in the name of providing quality education.

One such strategy might be joint in-service conferences where national leaders and panelists from both areas examine together the other's strengths, contributions, and the potential for working together the other's strengths, contributions and the potential for working together to help students. Industrial education offers skills and activities which now provide the most promising access for special needs students to meaningful participation in work. Special education offers basic education for participation in society, and a deep and abiding concern to help this population through adulthood. Under the mandates of PL 94-482, there is the potential for increased funding for appropriate activities incorporated in the individualized learning plans. Given such an expanded thrust for industrial education, it now seems more important than ever that we rally ourselves and our teachers in the public schools around the proposition that we serve best when we teach those who benefit from it the most. Rayd Mahaffey, the superintendent, was probably right: "the parents do send the best kids they have."

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Individualized Education Programs

Marc E. Hull
Linda H. Parrish
Owen J. Hill

School districts are now required by an Act of Congress (PL 94-142) to provide every handicapped child a free appropriate education. Fulfilling the requirements of the Act will cause virtually all segments of public education to become involved in meeting the needs of the handicapped, and this will mean increased involvement on the part of persons associated with vocational and practical arts education.

Under the Act, local districts must ensure their respective state education agencies that minimal provisions for meeting the needs of the handicapped are followed. One of the key provisions that must be made for each handicapped child is the development and periodic review of an Individualized Education Program (IEP).

The IEP requirement is regarded by many advocates of aid for the handicapped as one of the most significant components of PL 94-142. This is because the IEP requirement in the Act, more than any other part of the Act, holds the local district accountable for the achievements of handicapped students.

The IEP concept, though certainly not a panacea for all that has been lacking in the education of the handicapped, represents a significant attempt on the part of Congress to ensure that every handicapped child is receiving an appropriate public education. Moreover, the IEP provides an assurance that the achievement of each student will be planned and recorded so that the overall effectiveness of various approaches to educating the handicapped can be objectively evaluated, a feature that heretofore has been sorely lacking. Dr. Jasper Harvey, a Division Director for the Bureau of Education for the Handicapped, the agency charged with the primary implementation of the Act, notes that over the years of Congressional testimony "the over arching factor which seemed to persist was that if special education were to be special, then each child's unique needs must be given careful and specific attention and that a plan of intervention must be developed to meet those needs."

Industrial education's role

In the lead article for this series on teaching special needs students (October, 1977), Albright and Phelps introduced the IEP concept. The present article will explain more fully the meaning and purpose of the IEP and the role that industrial educators can play in its development and implementation.

In the Act, the individualized education program is described as "a written statements for each handicapped child . . . which shall include (A) a statement of the present levels of educational performance of such child, (B) a statement of annual goals, including short-term objectives, (C) a statement of the specific education services to be provided to such child, and the extent to which such child shall be able to participate in regular education programs, (D) the projected dates for initiation and anticipated duration of such services, and (E) appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether instructional objectives are being achieved."

The basis for the individualized education program is a written plan which is developed cooperatively at a meeting involving (1) an individual who represents the local district in an administrative/supervisory capacity, (2) the teacher or teachers who have primary responsibility for implementation of the plan, (3) the parent(s) or guardian(s) of the child and (4) when appropriate, the child. The IEP meeting is to occur at the beginning of the school year or 30 days after the student has been identified as handicapped.

The role that vocational, industrial and practical arts teachers play in the development and monitoring of the IEP will be determined largely as a matter of local district policy. The proposed rules for the Act (December, 1976) interpret the term "teacher" to include: "The child's teacher or teachers, special or regular, or both, who have a direct responsibility for implementing the child's individualized education program." Vocational and practical arts teachers who have handicapped students in their classes should expect to be involved in both the development and monitoring of the overall plan. When handicapped students are enrolled in vocational courses which operate on a half-day basis, the vocational teacher most assuredly would need to participate in the development and monitoring of the IEP.

The importance of the IEP and the participation of vocational teachers in its implementation is also emphasized in PL 94-482, the Vocational Education subpart of the Education Amendments of 1976. This Act specifically requires that vocational programs in which handicapped learners are enrolled "be planned and coordinated in conformity with and as a part of the child's individualized education program as required by the Education of the Handicapped Act" *(Federal Register,* Volume 42, Number 67, April 7, 1977, p. 18,558).

Since a significant number of vocational or practical arts teachers will eventually become important contributors to the development of individualized education plans, a clear understanding of the IEP concept will be necessary.

Preparing for the IEP meeting

A study of what the final IEP form should look like (see the accompanying illustration for an example) makes it readily apparent that specific preparation must precede development of the written plan. The first step in preparation for the IEP meeting should be for the participants to become familiar, to the fullest extent possible with the student or students for whom plans are to be developed.

An effective approach would be to determine each student's present level of educational competence through discussions with previous teachers. Ascertaining the student's present prevocational and vocational competence should be the primary basis for these discussions. One could also check the student's cumulative records although it is unlikely that specific information for instructional planning will be found. Ideally, the best but most time consuming approach would be to conduct a performance assessment based on specific course goals and objectives. Following the collection of this student information, a conference with each student should be arranged prior to the devleopment of the IEP where tentative prevocational and/or vocational goals can be discussed between teacher and student.

When special devices or services (such as equipment modifications, captioned films, large print tests) are required in order for a student to complete a course of study, their purchase or rental should be discussed with the appropriate authorizing agent or agents prior to the time IEP is developed.

Another step in preparing to develop individualized educational plans is a review of curriculum. Where annual course goals and objectives have been specified, selected goals and objectives can be reviewed and presented at the IEP writing session.

Having familiarized him or herself with each student for whom an IEP is to be developed, having tentatively identified appropriate annual goals and short-term objectives to be included in the IEP, and having considered special arrangements that may be needed to successfully accommodate the student, the industrial education teacher is ready to contribute productively to an IEP writing session. At this time, the student's specific plan will be finalized and put in writing.

The IEP meeting

At the IEP meeting, several distinct components of the plan must be developed. Assisting in the development of the plan will be representatives of the local district, the parent(s) of the student, and in many instances at the junior high and high school level, the student. The steps to be followed in the development of an approved IEP are described in the following paragraphs.

Step One. Determination of Present Levels of Performance. Prior to determining a child's eligibility for special education services a considerable amount of assessment data must be accumulated. One of the first steps in the development of the IEP is the translating of assessment data into comprehensive performance statements. The statements should include a child's present level of educational performance in such areas as academic achievement, social adaptation, prevocational and vocational skills, psycho-motor skills and self-help skills. A trained diagnostician, psychologist or evaluation team should assist in the preparation of these statements. However the industrial education teacher should expect to be called upon to develop or at least comment on the performance statements concerning pre-vocational and vocational skills development.

Possibly the most successful approach to developing performance statements dealing with pre-vocational and vocational education is to develop a checklist of student skills which relate directly to the industrial education course of study in which the student will be enrolled. The student's present level of functioning can then be stated as a matter of what specific skills the student presently has and what skills will need special consideration and/or special support services.

It is important when specifying a child's present level of functioning that whatever statement is made relates directly to the annual goals and short-term objectives of the plan. This means that the information obtained from occupational interest and aptitude tests may be too general to be reported in the IEP. There is little point, for instance, in reporting that a student's predominant vocational aptitude is finger dexterity and principal vocational interest is in working with animals if instruction is going to be offered in the areas of small engine repair, building trades or welding. If job or work samples are used to determine vocational aptitude, they too will be of little benefit in the development of the IEP unless they generate statements which relate directly to the proposed goals and objectives stated in the IEP.

Step Two Statement of Annual Goals and Short Term Objectives. The section of the IEP dealing with the statement of annual goals and short term objectives will be one of the most important and frequently reviewed parts of the plan. The goal statements must take into account the student's present level of functioning. At the same time, they should represent definite and realistic learning challenges and should focus on the attainment of skills of practical benefit to adult functioning. The annual goals should be attainable within a specified period of time and should represent the planning group's best estimate of what the child should accomplish within one year. It is important that the goals and objectives be measurable, hence observable in a specific way.

In specifying goals and objectives for pre-vocational and vocational education, a curriculum guide can be used to pinpoint the behavioral outcomes to be attained. It is important to consider goals in the affective (attitudes) domain as well as in the cognitive (knowledges) and psychomotor (skills) domains.

The statement of annual goals will of necessity be general and comprehensive. An annual goal for a student enrolled in small engine repair might be: "To acquire the skills necessary for employment as an apprentice in a small engine repair shop." The short term objectives to achieve this goal may include: "(1) To identify and operate the tools and equipment required to repair small engines; (2) to demonstrate routine preventive maintenance practices for a small engine; (3) to locate source(s) of trouble when a small engine fails to operate properly; and (4) to disassemble, replace malfunctioning parts and reassemble a small engine."

Admittedly, it may be difficult to express behaviorally objectives which deal with such traits as dependability, pride in craftsmanship, productivity, ability to follow instructions, concern for safety and the life, but this can be done through the use of such statements as: "The student will complete assigned projects within allotted time periods and according to prescribed specifications, and will abide by all posted safety rules when in the shop area."

Occasionally certain handicapped students, like non-handicapped students, will be noted for their habitual disruptive behavior. Disruptive behavior, although tolerated to some extent in the lab and classroom, will not be tolerated on most jobs. Therefore, it is a legitimate goal to list appropriate social or "work related" behaviors as goals to be attained by particular students.

Step Three. Specification of Services To Be Provided and the Duration of Services. The next step in the development of an IEP is the specification of special services needed in order to attain the goals and objectives listed in the IEP. The services to be listed include all those provisions that are not customarily offered. These services may include large print textbooks, captioned films, interpreter services, teacher aids to support classroom instruction, lab area modifications, equipment modifications, special counseling, prosthesis or special orthopedic appliances. A teacher's aide may be needed to make taped recordings of text material or to provide special tutorial assistance. The parent(s) and special education teachers should, to a great extent, be able to assist the industrial educators in specifying the services needed for the student to participate effectively in his/her course.

Services to be provided by outside agencies should be listed as well as those provided by the local district. Vocational rehabilitation services, for example, may be needed in order for a student to obtain employment. CETA funds for on-the-job training or special assistance from the Employment Service may also need to be utilized. Lists of available community services should be compiled for use in devleoping IEP's. In addition to their value for the IEP, many parents would benefit from this information.

Step Four. Specification of Evaluation Criteria for the IEP. At least annually a meeting must be held to evaluate the IEP and to review the extent to which the annual goals have been attained. Having an annual review meeting means that procedures must be adopted for systematically recording progress toward the attainment of goals and objectives. Therefore, data must be collected during the course of instruction in order to document the attainment of each objective stated in the IEP.

The consensus of the annual review team concerning the attainment of the goals should be recorded for future reference. During the annual review it should be determined if the services provided were adequate and if they were provided within the time frame specified in the IEP. The results of the IEP evaluation should be uniformly recorded for submission to the state education agency and any other agencies responsible for monitoring the implementation of individualized educational plans.

If the evaluation participants find that certain objectives have not been attained, they should analyze the causes of the failure. This should be a thorough, but non-threatening review process which poses such questions as: Were the available instructional resources adequate? Were the objectives realistic? Was the student absent for much of the instruction? Were essential tutorial or resource room services available? What specific steps need to be followed to ensure achievement of future instructional goals and objectives?

Additional benefits of IEP

The activities surrounding the devleopment and implementation of the IEP provide an excellent opportunity for the vocational educator to learn more about special education and the needs of handicapped students and their parents. In addition it will provide the vocational teacher an opportunity to acquaint special education teachers and administrators with the concerns of vocational educators. In time, special education teachers may become more familiar with the prerequisite skills that are needed for students to succeed in both regular vocational and practical arts programs.

If approached in a positive manner, the IEP concept can greatly benefit everyone involved in its development and implementation. Above all, it should accentuate the need for and benefits of cooperative, interdisciplinary approaches to meeting the needs of students.

This article is one of a series that appeared in *Industrial Education Magazine*, December, 1977.

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SAMPLE INDIVIDUALIZED EDUCATION PROGRAM FORM

School District Responsible _____ Date(s) of meeting: _____

Student _____ _____
(name or number)

Current Placement _____ child

Eligibility Certified _____ (date)

Period of individualized education program

_____ to _____

Persons present	Relationship to

Curriculum areas* requiring special education and related services	Present level(s) of performance	Annual goals	Short term objectives	Time required	Objectives attained (dates)
Area 1					
Area 2					

*If more space is required, use an additional sheet.

A. List any special instructional material or media necessary to implement this individualized education program.

Special education and related services recommended	Personnel responsible (name and title)	Date services begin	Duration
Curriculum area 1			
Curriculum area 2			

Student name or number _____

B. Describe the extent to which the child will participate in regular education programs.

_____
_____
_____
_____
_____

C. Recommended type of placement: _____
(include physical education) _____

D. Provide justification for the type of educational placement.

_____
_____
_____
_____
_____

E. Actual placement: _____
_____

F. List the criteria, evaluating procedures, and schedule for determining whether the short term objectives are met.

Short term objectives	Objective criteria	Education procedures	Schedule

Date of parental acceptance/rejection _____

Signature _____

Signature _____

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Measurement and Evaluation

Tim L. Wentling

The terms measurement, evaluation, and assessment are terms scattered throughout most of our current day communication. Students talk about tests and exams, counselors talk about administering standardized tests, school administrators talk about evaluating faculty and evaluating programs, and our new laws in education appear to be the target of an evaluation shotgun. But, one might ask, what does all this evaluation and assessment stuff have to do with serving special needs students in industrial education? The reply is that measurement and evaluation have just as much to do with special needs students in industrial education as they have to do with any other program in our educational enterprise.

The majority of industrial educators have encountered demands for the testing of students for grading or other purposes. Moreover, most industrial educators have had some type of course in testing or test construction either to meet certification requirements or to obtain a degree. However, the demands for testing and evaluation are today going beyond those of yesterday. For example, the Education Amendments of 1976 (Public Law 94-482) stipulate that student assessment information will be one of three inputs in the evaluation of vocational education programs by state education agencies. In addition, the same law specifically states that services provided to special populations which include disadvantaged, handicapped, minorities, and women will be evaluated.

The Education for All Handicapped Children Act of 1975 (Public Law 94-142) brings the requirement of mandate for student assessment closer to the classroom instructor. This law stipulates that each school-aged handicapped person must be given an individual assessment to determine his or her present level of performance. This initial determination provides input to the development of an individual educational program for the student (described in earlier articles of this series in *Industrial Education*).

Public Law 94-142 becomes very technical in addressing some of the necessary features of the testing of handicapped students and the tests that are utilized therein. For example, the procedures and materials associated with testing must not be racially or culturally discriminatory or otherwise discriminate against handicapped individuals. Additionally, the examinations or tests must be administered in the learner's native language or mode of communication. Moreover, the law states that no single test or type of test or other evaluation methods can be used as a sole criterion for inschool placement or program determination. In essence, this means that a variety of instruments and procedures must be utilized to determine a student's current level of performance. A final yet very important reference made in Public Law 94-142 specifies that objective criteria, evaluation procedures, schedules for completing the evaluations must be described in the learner's individual educational program (IEP). This statement requires that each student be annually assessed to determine how well she or he is achieving the objectives that are set forth in the IEP.

Effects

What can measurement and evaluation do for us?

Complying with regulations. The first thing that measurement and evaluation can do for us, although not the most important thing, is to aid us in complying with federal and state regulations. Many of the points described in previous paragraphs suggest things that those involved at the local school level must undertake. Many if not most of the measurement and evaluation activities specified in the legislation will become a responsibility of instructional personnel and, in the case of students involved in industrial education programs, you can guess who will do the job. Therefore, industrial educators will play a key role in meeting legislative and other types of mandates.

Understanding student needs. A second payoff, and probably a more meaningful payoff for measurement and evaluation, is that they will aid us in understanding student problems in the classroom and laboratory. This is to say that measurement and evaluation practices can help us know more about why particular individuals in our industrial education classes behave the way they do or exhibit certain learning or comprehension problems. By better understanding these student needs, instructors can be more constructive in reacting to students rather than responding in such a way as to minimize behavioral problems or effort on the part of the instructor.

Individualizing instruction. Measurement and evaluation can thirdly facilitate the planning of programs and instruction for special needs learners in the industrial education setting. For example, by knowing an individual student's strengths and weaknesses or at least having a better idea of

the same, instructors can do a better job of developing individualized educational plans or simply in designing instruction to meet individual student needs. We industrial educators probably know more about individual student needs than the typical academic or non-vocational instructor. This is because of the nature of our instruction, i.e., primarily laboratory oriented with much instructor on student or one-on-one type of instruction. Formalized testing practices can help us know more than we knew before and hopefully this will result in even more individualized instruction or more efficient use of instructor and student time.

Since determining the unique needs of the special student is considered an essential first step in helping the student succeed in the laboratory or classroom setting, the special educator can be an important resource to you. This person is specifically prepared and experienced in diagnosing the academic social and emotional needs of the special student and in designing instruction to meet these individual needs. His or her suggestions for assistance in conducting individualized assessment and instruction should aid in your efforts to better serve the special needs learner.

Student decision-making. A fourth contribution of measurement and evaluation can be felt directly by industrial education students as you help individual students to know more about their strengths and weaknesses related to their instructional program and potential career. For example, if we view industrial arts programs as having one function of career exploration, then the more information the student has about his or her current level of performance or functioning related to various jobs, tasks, demands, and requirements, the better career choices the individual will potentially make. Additionally, by understanding the strengths and weaknesses, the industrial education student can select learning activities which meet his or her specific learning style. In this way, the student can more efficiently progress through the educational system and more efficiently complete the industrial education course or program.

Program planning. A fifth advantage that measurement and evaluation can offer us as industrial educators relates to the evaluation of our industrial education program. By having a better understanding of the progress the students are making through our program and by better understanding what our students have gained as a result of our program, we can know more about the strengths of our industrial education program. By the same token, a better understanding of our program weaknesses can facilitate the improvement of our program and provide better service.

Program reporting. A final payoff, at least the last one to be mentioned in this article, relates to reporting. This payoff is probably more of a program manager or administrator payoff as opposed to an instructor type of advantage. However it is an important one. By better understanding the students we are serving and by better understanding the successes we are having in our industrial education program, the better job we can do of communicating that information to the constituencies of our program, i.e., the people of our community, the administrators of our schools, the legislators of our states and national government and so on. This is to say that measurement and evaluation can help us meet the accountability demands being placed upon us by various audiences of our program.

These are several of the payoffs that measurement and evaluation can offer us as industrial educators. Some of these, of course, have more immediate meaning to us than others; measurement and evaluation can be more important to us that just meeting the requirements of federal or state mandates.

Can we improve our M&E practices?

Attempting to design and implement measurement and evaluation system within an industrial education program is much easier for the industrial educator than it might be for the math educator trying to implement a similar system in a math program. This is true because as industrial educators we are accustomed to working with systems and complex organizations (industry itself). In addition, a measurement and evaluation system for an industrial education program is conceptually very similar to a quality control system that might exist in many of our nation's industries. For example, prior to production of any finished product, industrial personnel must analyze input raw materials and must design the production system which includes tooling equipment, etc., prior to any initiation of activities. Then once production does begin, there must be a monitoring of the quality—size, finish, appearance, etc. of the product at early stages and throughout production. Additionally, there is a need to assess the product prior to it being sold or distributed to the market. If we think of production in the very broad sense, there would most likely be the need to determine the overall adequacy of the product in use. This "in use" assessment might involve follow up of the users or buyers of our product. Figure 1 (on page 46) presents an example quality control system which might be found in a production concern of industry. Figure 2 (on page 46) presents a typical measurement and evaluation system for industrial education. As can easily be seen, the quality control system in industry and the measurement and evaluation system for industrial education are parallel. The typical measurement and evaluation system which is shown in Figure 2 will be briefly described in the following four paragraphs.

Identification of student needs and instructional planning. The identification of student needs segment of this particular system results in some type of portrayal of the learning strengths and weaknesses of the special needs learner. Developed by an industrial education instructor and appropriate specialists, the portrayal describes the student's education and learning needs. This learning needs assessment feeds into the development of an individualized educational plan or a group instruction plan based on the needs of a total group of students. Identification and planning information can be obtained from several sources. The first and easiest source to obtain information is from the cumulative files kept on each student by most educational agencies. Simple review of this file may reveal some needs of an individual student. Additional activities involve the interviewing or observation of individual students or talking with instructors and parents of the student. The use of work samples might help identify the problems or difficulties an individual student may have in performing the tasks of a particular industrial education program.

Interim assessment of student progress. The second phase of measurement and evaluation activity related to an industrial education program would involve the monitoring of student progress through the industrial education program.

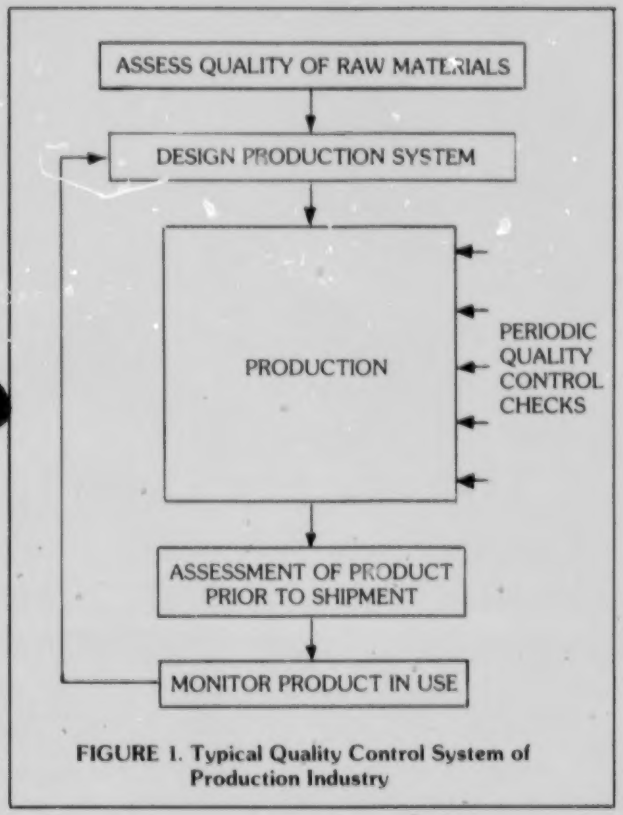

FIGURE 1. Typical Quality Control System of Production Industry

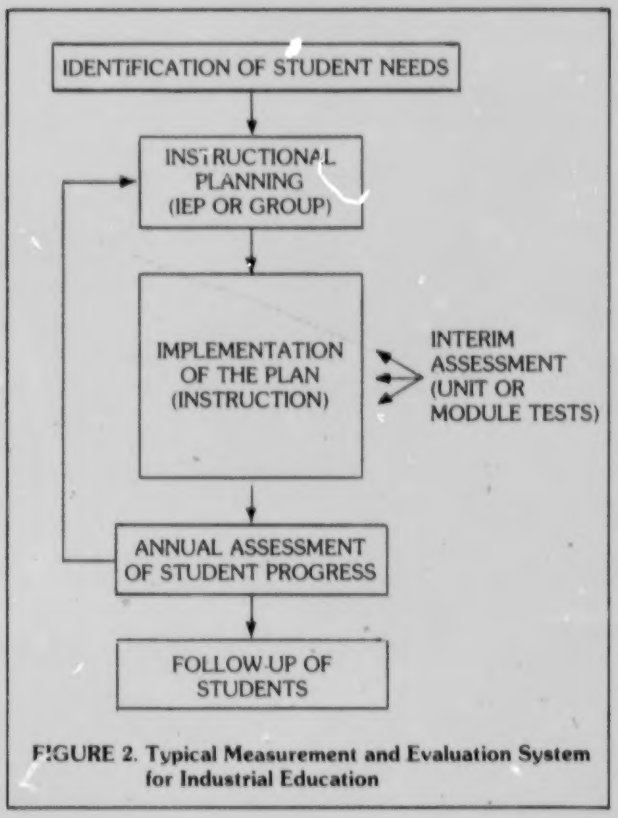
IDENTIFICATION OF STUDENT NEEDS
INSTRUCTIONAL PLANNING (IEP OR GROUP)
IMPLEMENTATION OF THE PLAN (INSTRUCTION)
INTERIM ASSESSMENT (UNIT OR MODULE TESTS)
ANNUAL ASSESSMENT OF STUDENT PROGRESS
FOLLOW-UP OF STUDENTS

FIGURE 2. Typical Measurement and Evaluation System for Industrial Education

This type of assessment might occur at the end of each unit of instruction by way of quizzes or examinations. In the case of individualized instruction, module tests or learning activity package tests would represent interim assessments. Additional activities might include observation of students in the laboratory and discussion with individual students regarding activities of the course or program. The purpose of the interim assessment would be to identify general learner progress and to facilitate change in an individual's education plan or remediate difficulties in instruction.

Annual assessment of student progress. The third major phase of activity in the measurement and evaluation system is annual assessment of student progress. As you recall, the necessity for this activity was specified in the Handicapped Children Act (PL 94-142). In essence, this phase of assessment calls for a comprehensive evaluation of a learner's progress upon the completion of the industrial education course or program. The information obtained from this assessment can be used for accountability purposes and reporting as well as for feeding back to help in the redesign of an individual educational plan if the student has not completed schooling at the end of the year. The final examination, the end of program examination, and other types of post-program evaluations typify the annual assessment of student progress. Other types of annual assessment instruments might include state board or certification examinations that students might take upon completion of vocational-industrial programs.

Follow-up of students. The follow-up of students presents another dimension for viewing a student's progress. This phase of assessment, typically referred to as ultimate assessment, provides feedback regarding the attainment of the ultimate objectives of education—employment and successful living in the work world. Public Law 94-482 specifies the requirement that student feedback as well as employer feedback regarding former students be obtained. Therefore, this activity or phase of assessment would most likely involve a survey of former students to gain both perceptions of past instruction as well as to gain data regarding employment status and other demographic information. The employer survey would provide qualitative feedback regarding the individual student's performance on the job relative to the educational program completed.

It is obvious that the components of a measurement and evaluation system for industrial education are not new. We possess many of them in our on-going programs. However, often times these activities have occurred independent of each other and have not been utilized as a system for assessment. Therefore, one of our major challenges as industrial educators is to bring together some of these fragmented activities into a system which can help us in achieving the payoffs or advantages of a system of measurement and evaluation that were outlined in an earlier section of this article.

This article is one in a series that appeared in *Industrial Education Magazine*, May/June, 1978.

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Instructional Materials

Marc E. Hull and William Eddy

The participation of special needs students in vocational and industrial classes requires the efficient use of instructional materials and resources. Although numerous commercial publishers have responded to the need for special materials, the need for individuals and institutions to develop materials of their own remains. Moreover, because of the broad and diverse requirements of special needs learners, additional consideration should be given to the use of materials as well as to the identification, selection and modification of teaching and learning materials.

Locating materials

Instructional materials pertaining to industrial arts and vocational education for the handicapped are much more plentiful now than in the past. However, access to these materials may be limited because they are out of print, too costly or unavailable for other reasons. Fortunately there are solutions, though imperfect ones, to each of these problems.

To assist teachers and other educators in becoming aware of available materials, there are comprehensive bibliographies of both student and teacher materials. In addition, several information retrieval and dissemination systems and centers have been established to give educators access to special instructional resources. Some of the major resource systems that can provide information on career education, industrial arts and vocational education for the special student are described in the following paragraphs.

The National Center on Educational Media and Materials for the Handicapped (NCEMMH), The Ohio State University, Columbus, OH 43210. NCEMMH is the national center for activities on the use of media, materials and education.

The National Instructional Materials Information System (NIMIS), The Ohio State University, Columbus, OH 43210. NIMIS is a computer retrieval system developed to assist teachers and other educators to locate information about materials for the handicapped. Additional information about NIMIS can be obtained from the special education division of your state department of education.

The Council on Exceptional Children (CEC) Information Services, 1920 Association Drive, Reston, VA 22091. This Information Service Center conducts customized computer searches, prepares topical bibliographies and publishes *Exceptional Child Education Abstracts*, a reference guide to numerous publications.

Special Education Instructional Materials Centers (operated in some but not all states). IMC's supply instructional materials, professional materials and technical assistance to persons working with handicapped children and youth. For further information, contact the division of special education within your state department of education.

Vocational Education State Research Coordinating Unit (contact the vocational education division in your state department of education). RCU's serve each state by identifying and addressing research needs in vocational education. Many RCU's also collect information and materials from research projects carried out in other states. They also can serve as a referral source to agencies which furnish vocational instructional materials, including materials for special needs learners.

The Center for Vocational Education, The Ohio State University, Columbus, OH 43210. The center serves as the ERIC Clearinghouse on Career Education and, in addition, publishes *Abstracts of Instructional and Research Materials (AIM/ARM)*.

Several topical bibliographies describing materials for use with special students may be obtained from the information networks described above. In addition, four detailed bibliographies of instructional and teacher materials are also available:

Vocational Education Resource Materials: Handicapped and Special Education. 1976. Center for Studies in Vocational and Technical Education, University of Wisconsin-Madison, Madison, WI 53706.

Vocational Instructional Materials for Students With Special Needs. 1972. *Vocational Instructional Materials for Teachers of Students With Special Needs*. 1972. Northwest Regional Educational Laboratory, 700 Lindsay Building, 710 S. W. Second Avenue, Portland, OR 97204.

Bibliography of Secondary Materials for Teaching Handicapped Students. 1977. President's Committee on Employment of the Handicapped, Washington, DC 20210.

In some instances, special materials like captioned films or talking books may be needed to accommodate the handicapped in regular classes. Information about the availability of special materials of this nature may be obtained from the American Printing House for the Blind, 1839 Frankfort Avenue, Louisville, KY 40206 or from the National Center on Media and Materials for the Education of the Handicapped. The Ohio State University, Columbus, OH 43210.

Developing materials

When teachers find that it is necessary or desirable to develop materials and teaching aids for the special needs students, critical consideration should be given to the learning patterns and styles of the students for whom materials are being prepared. When developing materials to be used by students with limited reading ability, certain points should be considered. First, clarity of presentation must be ensured. In an effort to effectively convey concepts through written materials, the information to be presented should be broken down into concepts which can be presented in a simple, straightforward and logical manner. The frequent use of technical terms makes it especially important for materials to be written in a manner that is clear and expressive. For some students, it will be helpful or necessary to use numerous illustrations, examples, analogies, and the like. Drawings, cartoons, arrows, underscoring, setting important points off in boxes can also help to emphasize information.

Excellent examples of teacher developed materials are avilable from the Capital Area Career Center 611 Hagadorn Road, Mason, MI 48854. Approximately 2,000 learning packages have been developed covering appropriate content for special students in 10 occupational clusters. The student materials can be comprehended by persons with limited reading skills. All technical terms are spelled phonetically as well as in the customary manner. These materials, which have been tested, are available for purchase.

From time to time, it may be necessary to develop materials for persons with visual or hearing impairments. Basically, this becomes a matter of discovering what works for each student. By communicating openly and by not being afraid to make mistakes, instructors should readily come to know what does and what does not communicate for a particular student.

Using materials

Materials should be used with a specific purpose in mind. When working with students with academic problems, seldom can one assume that instructional materials which are read independently will be sufficient. At best, instructional materials should be used to supplement instruction and reinforce a particular skill or concept that is presented in class.

Students should be introduced to concepts before they are expected to read about them. The practice of making a reading assignment and then discussing it in class frequently results in a disastrous experience. Unfamiliar terms appearing in written material should be pronounced and discussed prior to making a reading assignment. Key concepts and information that will be covered on tests should be highlighted prior to the assignment of outside readings. Whenever possible, opportunites should be given for students to report what has been learned from a particular reading assignment prior to the time a formal review or test is given.

When written materials are used to supplement technical instruction, it may prove more effective to use them regularly for short periods of time rather than to concentrate on them for days or weeks and then focus on hands-on activities.

Although there are special considerations to be made in the selection and use of materials with the special learner, one does not need to be a "materials expert" to effectively teach these students. The teacher who gets to know each student on an individual basis will discover ways to convey more effectively essential information to all of his or her students, including those with special needs.

This article is one of a series that appeared in *Industrial Education Magazine*, November, 1977.

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Motivating and Managing Behavior

Wayne Booton

The thought of integrating special needs students into a regular industrial or vocational education class for the first time will undoubtedly raise many questions in the mind of the classroom instructor concerned. It is extremely important that this instructor obtain answers to such questions as: How will I develop rapport with special needs students? How will I motivate them? How will I deal with inappropriate behavior if it arises? How will I involve parents in this education?

First, it is important to realize that special needs students are more like other students than they are different. They laugh, cry, love, fear and long to become accepted and respected for their accomplishments so that they may develop and maintain the self-respect and human dignity we all strive for. The key differences between special needs students and "regular" students are that the special needs students often lack a role-model, they experience a great deal of frustration due to a perception of themselves as failures in the eyes of society, and, as a result of these circumstances, they have very little feeling of self-worth.

The business of managing behavior and motivating special needs students is not something we first do to *students*. Rather we must begin with ourselves—the staff: administrative, teaching, and support personnel—and then involve the students. The attitude we project and the way we approach our work in dealing with special needs students will communicate to the students whether we are sincere in our efforts to assist them in accomplishing their goals, and will ultimately control the amount of behavioral problems we face or the motivation we must provide.

Staff in-service prior to integrating special needs students into industrial or vocational education classes is crucial to the success of the program. The in-service should be designed to assist each staff member in seeking answers to the following questions:

- What problems will I be faced with in teaching special needs students?
- What are my real feelings towards special needs students?
- How am I going to deal with these feelings?
- Am I willing or able to make a sincere effort to assist the special needs student daily?
- What skills and personal attributes do I have to offer special needs students which will assist them in reaching realistic career goals?
- What outside resources are available?
- How can these outside resources be coordinated in order to become part of the regular delivery system when needed?

A staff in-service of this type is very beneficial in developing an understanding of special needs students, in generating the proper attitudes, and in developing the team effort that is necessary in order to provide the daily services required by the integrated special needs student.

Staff skills and commitments

Special needs students require professional who are willing to: (a) show them the way, (b) recognize their capabilities, (c) help them adjust to their limitations, (d) listen to their problems, and (e) expect the best of them as they work to accomplish critical occupational tasks in a program designed at each student's level of ability, that will lead to successful entry employment.

Students who have administrators, teachers, and support personnel dedicated to meeting the above needs have rarely demonstrated offensive behavior. A prime motivation factor for most special needs students entering a vocational program is the opportunity to succeed. Staff enthusiasm and personal involvement, while providing a planned sequence of success at the student's level of ability, will promote continued personal growth and motivation.

Critical factors

The administration, support personnel, and instructors at the Calhoun Area Vocational Center, who have successfully operated vocational programs with special needs students totally integrated for the past seven years, have found that the

following activities are necessary if they are to successfully manage behavior and motivate special students. They are five key factors we have found to be critical:

Parent Involvement. Parents must be involved beyond the required state and federal planning of their child's vocational education program. A tour of the vocational education facility by parents and an explanation of what their son or daughter is learning is helpful in developing understanding and cooperation. Appointing interested parents of special needs students to vocational program advisory committees or to an overall special needs advisory committee provides for more extensive involvement. As a minimum, it is essential to keep parents informed, via telephone or personal conferences, about student achievement, problems, absenteeism, and employment opportunities.

Teacher-Student Rapport. Initially, it is important to make students feel welcome, comfortable, and a part of the class and program. Individual counseling and tours of the facility are helpful in this regard. Teachers and staff should greet students on a daily basis if possible. Developing personal relationships is essential for letting students know they are important, have a purpose in life, and can accomplish realistic goals. Through daily contacts the staff must be alert to moods and complacent attitudes, and provide students with the opportunity to talk out frustrations and misunderstandings which may interfere with their school performance.

Mutual understandings can be reinforced by explaining school, shop, and safety rules thoroughly and posting them in writing. Teachers must be fair, firm, and consistent in seeing them observed.

As teachers gain more knowledge of the learner's specific needs, they can plan instruction which is aimed at the specific aptitudes and abilities of the student. All of these factors are crucial to establishing a student-teacher rapport which leads to maximum achievement by each student.

Motivation. In working with various types of special needs learners motivation is extremely critical. Teachers must provide supportive counseling and selective leadership in some instances. Care must be taken to insure that the first lesson or project is successful. Upon program entry it is essential that students recognize that they can achieve useful skills and competencies that will make them independent and successful in the world of work.

Teachers must come to recognize the student's capabilities as well as his or her limitations. A student's potential shouldn't be prejudged on the basis of labels such as mentally retarded, but instead teacher's must get to know a student in terms of his or her reading, math, perceptual, physical and social skills. Personal counseling is vital in helping students accept certain limitations they may have and focusing on developing strengths in other areas to compensate.

A number of special needs students experience motivational problems as a result of previous difficulties in school. Frequently these students just need someone who can listen to their problems and provide some guidance. Teachers and support personnel must be capable of providing positive and immediate attention to these situations. Supporting and guiding students through personal and family crises is critical to keeping them in school.

Periodically, it is important to review with students their academic, social, and emotional growth. This reinforces what they have accomplished and provides an opportunity to plan together future learning experiences.

The learning experiences provided must relate directly to the student's lifestyle, and be viewed as relevant and useful by the student. A student will better understand and appreciate the theory of internal combustion if it is taught as part of an experience to tune-up his or her mini-bike or snowmobile engine. Providing co-op work experiences at the appropriate point in the student's vocational development is also essential in establishing the relevance of school experiences to employment.

Inappropriate Behavior. To minimize inappropriate behavior students should be reminded of all rules that apply to them as frequently as necessary (which for some students may be daily). It is also helpful if support personnel (counselors and aides) can visit classes periodically and be in hallways at appropriate times.

When a student deliberately violates an established rule, teachers should:

- Listen to the student's viewpoint or reasons for the violation.
- Be concerned about possible underlying causes.
- Clear up any misconceptions regarding the rule(s).
- Explain the reasons for and benefits of following the rule.
- Impose a fair penalty.
- Help the student re-enter daily activities without attracting undue attention.
- Check periodically to see that the student is following all rules and is working to develop a positive attitude toward the rules of society.

Team Involvement. The activities outlined above for managing behavior and motivating special needs students are time consuming but effective. It is unreasonable to expect a vocational or industrial arts teacher to attempt any of these alone.

The staff at the Calhoun Area Vocational Center has formed a special needs support team to assist each instructor on a daily basis. The daily student population of the Center is 1,250 students with 60 instructors and aides. Approximately 325 of the students are disadvantaged and 105 are physically, mentally, or emotionally impaired. A six-member special needs support team, three for the disadvantaged and three for the handicapped, are responsible for daily contacting and assisting their assigned students and student's teacher. When the student experiences a problem, the instructor, support person, and student work cooperatively until the problem is resolved. The support team is also active in planning and coordinating each student's instructional program. In addition to providing personal and career counseling, the support team members tutor students in vocationally-related math and reading. They also work directly with the instructional staff in teaching employability and consumer skills (e.g. filling out job application forms, applying for a social security number, applying for credit, etc.).

Summary

The instructional staff, support team, and administrative staff at the Calhoun Area Vocational Center has found the above critical factors to be essential in managing behavior problems and motivating special needs students. A team approach which provides for parent involvement is the founda-

tion of the program. Through this approach we have been able to provide meaningful opportunities that have enabled the special needs students to experience success. The personal involvement which the staff and support team devote to each student greatly minimizes the behavior and motivation problems typically encountered by these special needs students.

Over the past seven years special needs students have become an integral part of the Calhoun Area Vocation Center student population. The Center has been charged by its policy advisory committee and the local boards of education to accept all students as they are, and to enroll them in regular programs whenever possible. These groups have, in effect, locally mandated serving special needs students and mainstreaming as part of the Center's operating philosophy.

When the Center was opened in 1970 the instructional staff did not come well prepared to deal with special students. To improve their skills, over $150,000 has been spent on various in-service and professional development activities for the staff.

As a result of these in-service efforts and the experiences the staff has gained in working with special students, a large percentage of our special needs students have made a successful transition from the Center to employment and other educational opportunities.

Mr. Booton is Coordinator of Special Needs Programs for the Calhoun Area Vocational Center, Battle Creek, Mich.

This article is one in a series that appeared in *Industrial Education Magazine*, April, 1978.

Teaching Safety to the Special Needs Learner

Ronald J. Lutz
Virginia L. Pearson

This article is the fifth in a series of articles on teaching industrial education to special needs students. The series is under the general editorship of Dr. L. Allen Phelps of Pennsylvania State University and Dr. Len Albright of the University of Illinois.

Many questions are raised by the requirement that special needs students be included in the lab class where materials, tools, and machines provide potentially dangerous situations for the learner.

How can a student with a mental handicap function safely and productively in a lab class?

Will the student with a history of seizures work safely around machinery?

What safety precautions need to be considered when special needs students are in a welding or machine shop class?

What special equipment modifications might be needed for the physically handicapped, the hearing impaired, or the visually impaired student?

These are a few of the safety concerns commonly expressed by vocational and industrial arts teachers.

Modifications may be necessary and appropriate for the special student. But there appears to be little evidence to support the often held notion that special needs learners are less safe or more accident prone than other learners.

Such factors as carelessness, confusion, and boredom lead to unsafe conditions, and, in this regard, special students are no different from other students. Through an analysis of students' needs, proper instruction and careful supervision, the instructor is able to maintain a safe working environment for all learners.

The instructor will want to consider standard safety precautions when working with special needs students. In addition, there are students with certain handicaps who may require specific modifications or additions to both equipment and learning environment in order for them to function successfully within the lab setting. Both these standard and unique student safety considerations will be examined herein, followed by some suggestions for maintaining a safe lab class environment.

General Safety Considerations

Safety precautions for the special needs learner involve, first of all, stringent attention to the same provisions that should exist for the entire class.

- **Require the use of safety eyeglasses and hard hats.**
- Have adequate fire extinguishers.
- Mark exits properly.
- Light and ventilate shops.
- Have machines and tools properly guarded.

In addition, recent federal laws concerning the removal of architectural barriers from schools and other public buildings suggest the following as standard operating procedures:

- Use non-skid floor surfaces. If a flooring cannot be replaced, varnish or wax with added grit can be applied to make the surface safe.
- Thresholds should be level or ramped.
- Floors should be kept free of litter and debris. Even small items such as nails could cause a person in a wheel chair to tip or a person using a crutch to lose balance.

Let's now look at safety factors unique to certain handicapping conditions.

Physically handicapped

Safety provisions which are specific to people with physical handicaps will vary according to each student's particular needs but could include any, or several, of the following:

- Machine switches within easy reach and operable in a variety of ways: heat sensitive or continuous operating switches controlled by an elbow a knee, an ankle, etc., depending upon best body use.
- Standing tables which permit those unable to sit for long periods to have comfortable support.
- Vises to hold materials firmly for students with good use of only one hand.
- Guards and shields on machines to prevent accidental touching for the cerebral palsied student whose writhing movements are not completely controlled on the extension.
- Containers that can be firmly attached to work areas to prevent spills. Nailed down empty cans may be used to hold slightly smaller cans of solvent, paint, and other liquids.
- Faucets with dials that may be set to specific temperatures and faucets with foot or elbow controls.
- Rails on walls for help in walking.
- Tables high and wide enough to accommodate use by

those in wheelchairs, with aisles wide enough for wheelchairs.

- Close, convenient areas to hang up or put away crutches. Crutches must remain within easy reach of the student or he has been further handicapped by his teachers.

Hearing impaired

The hearing impaired or deaf student may need to have visual signals available for all switches and visual controls to alert the student to the fact that a machine is on. Warning devices should also have a visual component, as a light or small electric fan, that comes on in the event of a fire.

Visually impaired

Students with a slight problem may need:

- Audible warning signals/switches.
- Large print or directions in braille.
- Orientation training to alert students to presence of open pits or other hazards.
- A buddy system so handicapped and non-handicapped students can share or assist in work where good vision is critical to certain aspects of a task.
- Equipment and furnishings should remain in the same places, or if changes must be made in location, then the blind student must be reoriented to the room.
- Special care to close or open all doors completely.

Learning/behavioral problems

Specific arrangements will probably not be required for the educable mentally impaired and the learning disabled student. However, the reading level of the students should be known and, where necessary, the use of simple, survival word signs and warnings should be employed. Survival words are those basic vocabulary words considered essential for daily use such as "exit," "danger," "poison," and "open." All labels and directions should be simple, clear, and prominently displayed.

Instructional considerations

An accident or the avoidance of an accident is an individual situation which often relates to the knowledge and attitudes of the person performing the operation. The group demonstration by itself may not be adequate to provide the necessary knowledge for the learner to perform adequately and safely. The instructional sequence that includes a group introduction, group demonstration of all the machines, and then individual operation by the students may demand several additional steps for the special needs learner.

It may be difficult, if not impossible, for a deaf student to grasp what has been offered through a group demonstration without the supportive services of a speech and hearing consultant during the instruction. These consultants can also help the learner to understand the terminology, working conditions, and safety precautions that are necessary for using a specific piece of equipment. For the learner with reading difficulties, the special education teacher, paraprofessional, parent or other experienced students may be needed to help the learner understand basic concepts.

Since most special needs students will not be incoming or new students to the system, it seems that safety must become a unified effort among the industrial arts and vocational education teachers. During career awareness experiences at the elementary level, safety considerations when using sharp and other potentially dangerous tools must be emphasized. As tools become more complex and machines become larger at the middle school, learners can expand their knowledge and understanding of the proper uses and limitations of a wide variety of tools and machines.

Conscientious efforts of individual teachers during the career awareness and career exploration stages should help the special needs learner in developing positive and safe work habits. Close working relationships between special education teachers and counselors often make the teaching/learning situation much more efficient for the sake of the industrial education teacher.

There are immediate short term improvements when teachers share the teaching responsibilities that help to protect the learner from an accident and help to relieve the liability concerns of the industrial education teacher. Long term attitudes related to working safely are developed as the learner completes a sequence of carefully developed courses that are constantly being monitored and modified by the team of industrial arts and vocational teachers.

This process requires the adoption of a mutually-developed curriculum that recognizes the importance of career awareness, career exploration, and career preparation stages in a sequence, so the learner can progress by blending what was, with what is, with what is coming.

Assessing instruction

Having adequate knowledge about the uses and limitations of each piece of equipment to be used is essential for all learners. For the special student this process may require the assistance of additional support services. Equally difficult may be the process of assessing the amount of knowledge that has been accumulating. The experienced special needs student may have learned the importance of smiling and nodding "Yes" when the teacher asks, "Do you understand that?" or shaking his head "No" when the teacher asks, "Are there any questions?" But the outcome of accepting the smile and nod as evidence of understanding could be dangerous.

Again the industrial education teacher may need assistance in acquiring the necessary information. The deaf student may have to learn specific details and have feedback assessed through a special education teacher. The blind student may need the specific details for using a certain piece of equipment transferred from a textbook to a tape so he can learn the information through another sense. The special education staff should receive pertinent vocabulary words in order to increase the impaired reader's facility in the vocational classroom. The physically handicapped may need modifications in the machine operation or guarding mechanism to allow for his handicap. The emotionally distrubed student may need the additional attention and concern of special education faculty or other students to acquire the necessary detailed information to know how to work safely and efficiently.

Continuous feedback from students related to their understanding of the proper procedures and safety precautions on each tool and machine may be collected after instruction in the form of criterion referenced tests. Criterion tests should be used regularly to test recall of past learning. Tests in a performance or written form will permit the teacher to assess learning and application of skills before moving on to more advanced skill training. As with the acquisition of knowledge, this feedback may need to be accumulated by a special education teacher.

A safety exam may be a realistic step in unifying safety in

the industrial education curriculum. The long range plan would be to produce working procedures and safety precautions for each machine and tool used in industrial arts and vocational education classes. This instrument should not have any effect on a special needs learner's grade, but instead might be used as a device to find out at the beginning whether or not adequate knowledge has been acquired. Re-examination following instruction by the industrial arts or vocational education teacher following instruction would provide evidence that the learner has an adequate amount of knowledge to perform a specific operation.

One of the biggest barriers to using this approach is recongizing the need for such a device. From the learner's point of view, it must be confusing, amusing, and contradictory to learn from Dad how to use a quarter-inch electric drill in the garage, only to find out in 4th grade when drilling a hole in a bird house that Mr. Jones has a different set of rules and Mr. Smith uses the drill differently on the assembly line in junior high school and Mr. Brown uses it differently in the high school building trades program. Not only is the learner confused, but those sharing the teaching responsibilities for the special needs learner either learn four or five sets of rules for each operation or ignore the situation and probably use their own unique procedure. Under the circumstances, special assessment procedures are called for.

One characteristic that separates the master teacher from the beginner is that the master can "make it simple." Let's make the quarter-inch electric drill simple and safe to use. The process may be as follows:

1. Notify the instructor that you would like to use the quarter-inch electric drill.
2. Assemble the drill, twist drills, chuck key, a pair of safety glasses and the material to be drilled near an electrical outlet.
3. Insert the correct twist drill in the chuck and tighten by hand (clockwise).
4. Grasp the chuck key (on the cord) and retighten the twist drill (clockwise) and remove the chuck key (on the cord).
5. Plug in the drill and complete the drilling operations. Safety glasses are required for *all* drilling operations. Use a center punch before drilling in metal. If a drill should smoke, vibrate, or break, stop drilling and notify the instructor.
6. Unplug the cord, grasp the chuck key (on the cord) and loosen the drill (counter-clockwise).
7. Remove the twist drill and replace it in the proper storage place.
8. Return the quarter-inch electric drill to its storage place and clean up the area.

After reviewing the processes and carefully considering the suggestions that each person has recommended, the learner no longer needs to be confused, amused, or puzzled in his educational experience with the electric drill. The process can then be transformed into one of several possible testing formats so the learners understand a simple and safe procedure and the teachers can accumulate some evidence to document that the learner has been effectively taught.

Safety conscious attitudes

Working with others with a safety conscious attitude is of utmost importance. Knowing how to properly use the tools and machines is an obvious prerequisite to a safe working environment. Equally important is the individual's performance when working with others, sharing facilities, and looking out for the other guy. Although the supportive instructional staff can be helpful in reinforcing instruction, it is the industrial arts and vocational teachers who must set the stage and constantly observe the individual's performance in order to avoid dangerous situations. Positive working relationships can be improved when the teacher:

- Sets the example of helping others in a kind, thoughtful manner.
- Rewards a student who helps another with a kind word, smile, or just by noticing the interaction.
- Encourages students to individualize their projects as opposed to having required projects that all look alike.
- Expects students to finish activities at different times instead of having predetermined, anxiety-generating due dates.
- Suggests that one student who has mastered a skill teach one who is ready to learn the skill.
- Develops a planning procedure that causes the learner to "think through" an operation before it is begun.
- Demonstrates interest, concern, and respect for each learner.

In summary, there are many factors related to the safety of special needs students in industrial arts and vocational education classes. One feature relates to the acquisition of knowledge and the assessment of that knowledge through the appropriate senses of the learner. In addition, the instructor will have to observe students' performance in the lab and correct any deficient behaviors. Last, but not least, the development of a safety program that generates a safety consciousness relies upon a unified effort of industrial arts and vocational education teachers as well as the input from supportive personnel such as special education teachers, counselors, and consultants.

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Cooperative Work-Education

John G. Bowers

The purposes of work-education programs for special needs students are basically the same as for the general population of students. A primary purpose is to provide vocational education experiences which either cannot be provided as a part of the regular in-school vocational program or can better be provided through on-the-job training. Secondary purposes are (1) for the student to receive help from school personnel in making the transition from school to work and (2) to gain experience in or to explore a career field.

Work-education is not a means for the school to avoid its responsibility to furnish for special needs students a meaningful and appropriate education within the regular vocational education program. Since parents are often concerned about the future employability of their children and because job placement is often considered the successful culmination of vocational education, it might be convenient for the school to place special needs students in ready-made jobs and let the responsibility for vocational education rest with the community. Such practices are clearly a violation of the goals of cooperative work-education. Instead, the work-education component should be closely coordinated with and be a bona fide part of the handicapped learner's Individualized Education Program (IEP), containing specific goals, short-term instructional objectives, and a listing of related services.

There are a number of advantages to using the community for help with the education of special needs students. Such students have frequently experienced a series of failures in school. In the work world, they have the opportunity to test their abilities directly in work situations. Also, they experience first hand the different types of employment which have been talked about in school, but which probably had little meaning for them. Special students will likely encounter adult co-workers who frequently will be more compassionate than their school-age peers and many of their teachers. Instead of being dependent upon the printed word for their education, they will receive instruction and demonstration from a job supervisor on a one-to-one basis and benefit from practical hands-on experience with work.

Some of the specific industrial educational objectives for the special student in this type of community-based program are:

- To develop a better understanding of one's own aptitudes, interests, and personality characteristics.
- To provide opportunities for expanded social relationships.
- To develop positive attitudes toward work.
- To know and practice good employer-employee relations.
- To start work and adjust to the job.
- To be able to use earnings wisely.
- To be aware of employment laws and regulations.
- To master specific work requirements of an occupation, such as work tasks, safety, and tool and equipment use.

The decision to include a work-education component in the IEP for a special student should be made jointly by a vocational instructor, counselor, student, and parents. Depending on the structure of the program, the student will eventually be referred to a cooperative vocational education teacher-coordinator. This is the individual who develops an on-the-job training plan in cooperation with an apporved training site (business). The business will need to be one which can meet the general objectives of the program as well as respond to the individual needs of the student. The teacher-coordinator (sometimes called a placement specialist) should participate in the discussions on the development of the IEP pertaining to the work-education component. The placement specialist can supply input about employment opportunities, meet the parents and plan with them for their support, begin to work with the student and instructors to profile the student's knowledge and skills, and define specific objectives for placement with an employer.

Some of the actions which the teacher-coordinator should take in implementing the student's IEP might include:

- Instructing the student in job-securing and job-retention skills.
- Creating on-the-job training opportunities with local businesses, industries, and service organizations.
- Locating and screening potential training stations or sites within the school and community.
- Completing training plans and agreements with cooperating employers, students, parents, and vocational instructors.
- Expediting school-work permits for minors and explaining to employers child labor and other legal provisions.
- Placing students and assisting job supervisors as necessary with orientation of students during the training period.
- Working closely with employers in supervision of

students in order to assure maximum benefit for both.

- Visiting the training station regularly and assisting in solving training-related problems.
- Discussing with the student his or her progress in training and reviewing with the student progress in achieving objectives of the placement.
- Obtaining input from the employer and providing feedback to the parents and the student's instructor(s).

Special skills of teacher-coordinator

In order to accomplish the above, the teacher-coordinator must look at each student as an individual rather than as someone in a certain category (e.g., mentally handicapped). The teacher-coordinator must be able to assess both the student's strengths and weaknesses. In working with the employer to develop a training plan, special attention must be paid to emphasizing the student's strengths and the need to develop new skills. The teacher-coordinator, in cooperation with special education and vocational instructors, must determine when the student is ready for placement as well as anticipate potential problems.

The teacher-coordinator essentially decides how much help the student-learner will require in getting off to a good start on the job. Circumstances might require that the teacher-coordinator assist the job supervisor with the student's initial job training. Experiences with special needs students have shown that employment success often depends upon factors such as maturity, personality, initiative, and the ability to get along with co-workers and supervisors rather than specific occupational skills. It is important, therefore, for the coordinator to assess carefully the student's readiness for employment. Interviewing the student, parent(s), and former teachers is one means of obtaining information on student readiness.

In determining if a specific job is suitable for a student, the teacher-coordinator should ascertain the employer's requirements—age; any screening tests administered; the type of application form used; physical requirements for the work and working conditions; specific educational requirements for the job, such as reading or math; specific job skills, such as the use of travel directories, sales forms, cash register, tools, or machines; special aptitudes required, such as good vision or speed of manipulation; the specific duties to be performed; the type and number of co-workers involved; the type and amount of supervision provided; and the type and length of training.

To help the student start off right in his job, the teacher-coordinator should help the student in completing a record of basic information about the training station. Among the items to include in this record are company name, address, telephone number, business hours, method of checking in and out, use of the company telephone, special clothing on the job, safety rules and policies, method of pay, a list of tools, equipment, uniforms, and supplies required, what to do in the case of accidents, any hazards or dangerous conditions connected with the job, machinery operated and what to do if the machinery breaks down, the principal product or service of the business, and an on-going record of what the student is learning and accomplishing on the job. This last record should be made by the student and checked periodically by the teacher-coordinator.

Further, the teacher-coordinator working with special needs students must be sensitive to the many factors affecting student performance and develop strategies for overcoming these obstacles. More often than not, support from the family will either be inadequate or almost entirely lacking. Quite often the school will have done little to develop recognizable employability skills in the student. The student may be suffering from a number of problems due to disadvantaging or handicapping conditions, and because of this may generally be thought of as a problem person. Due to youthful age and job inexperience, the student may not be the type of person actively sought by employers. However, every effort should be made to obtain parent, school, and employer support. The parents, for example, can provide support by maintaining the student's health, making sure the student gets adequate rest, insuring that the student reports to work each day, making certain after the student has begun work that homework assignments are still being completed, showing some interest in the work which the student is doing, helping the student to manage income, insuring that the student has proper clothing which has been well laundered, encouraging the student to be involved in some recreational activities, and notifying the teacher-coordinator of any job-related problems.

In attempting to fulfill these various roles, the teacher-coordinator will be acting as a teacher, a public relations person, a vocational and personal counselor, a program administrator, a social worker, a communications specialist, a vocational instructor, an evaluator, and the personal advocate of the student. The teacher-coordinator working with special needs students will also find it necessary to be in touch with other agencies working with the student and/or the family. Examples of these would be the vocational rehabilitation agency, the state employment service, juvenile authorities, adult and continuing education programs, and various voluntary social agencies.

Because of the wide variation in professional roles, it is obvious that many of the skills needed by the teacher-coordinator will be developed through experience and by working with the students and employers. The industrial educator who has not been schooled in special education or who has not had previous experience working with special needs students should not be overly concerned about this. If the teacher-coordinator works closely with all concerned parties, takes an active role in the development of the student's IEP, and carefully selects a training station, it is likely that the student will be able to benefit from the work-education experience and be better prepared for employment as the result of that experience.

Alternative work-education programs

There are a number of different types of work-education programs. Some are exploratory in nature, while others are geared more to specific skill development. Also, depending upon the type of program, funding may come from vocational education, special education, career education, or the Comprehensive Employment and Training Act (CETA). Industrial educators should also be aware of the new possibilities for designing work education programs for disadvantaged youth under the recently enacted Youth Employment and Demonstration Projects Act. This Act calls upon the schools to work closely with local CETA prime sponsors in developing in-school work oriented programs for potential school

leavers. As a result of their orientation and experience, industrial education personnel could and should play a key role in working with CETA personnel in the development of programs to help combat the rising youth unemployment problem.

In examining the alternative types of work-education programs, it is important to remember that the most suitable program placement will depend on the particular needs of the student and the availability of programs within a given school district. The following programs are listed within two broad categories:

- Those related to career exploratory goals.
- Those concerned with general or specific on-the-job skill development.

Career exploration arrangements

In-school or community volunteer work. It is not always possible to gain paid on-the-job training, and some students will ask for volunteer work for the experience and to help others by volunteering to serve in a non-profit agency. If this type of program is organized, it is important to make sure that the student is exposed to a variety of jobs and persons within the respective agency(ies).

Job observation. For those students for whom the objective at the time is learning more about different types of occupations and different businesses, unpaid, non-working job observations provide the means. The student could spend periods of time with several businesses while observing work in various departments.

Projects in occupational exploration. This would include a structured series of projects to uncover as much information about an occupational field as necessary. Examples are searching occupational literature (including that which has been prepared for special needs students), visiting industry, job observation, and interviewing people working in the field.

Work Experience and Career Exploration Program (WECEP). This program is designed for 14- and 15-year-old special needs youth. Students work in paid, part-time jobs either in school or in the community for the purpose of developing basic job skills and for exploring the world of work.

Skill development

Work study. There are two versions of this program. One is funded through vocational education and is designed to provide income for the student so he or she can remain in school. In this case, the student usually works after school hours. Seldom is there an attempt to tie work and school together for instructional purposes. The second form of work-study is typically funded through special education and is for high school age handicapped learners. This program, however, does combine both school and work into one interrelated instructional program.

Work experience. This program basically places special needs students in unskilled jobs which require little training. Although the student's school day consists of both classroom instruction and on-the-job experiences, the two aspects seldom become integrated.

Cooperative work-education. The cooperative school and work program is characterized by the existence of a skill-training orientation with a heavy emphasis on coordinating the work-education aspects through the use of a training plan. Job placement is usually in a semi-skilled or skilled occupation.

A comprehensive work-education program for special needs students would include physical and mental assessment, vocational guidance, referral to other agencies for specialized services as needed, orientation in employability skills, placement in one or more of the above listed training components, school supervision, follow-through supportive services, and program evaluation.

Mainstreaming in work-education

There are two main reasons for including special needs students with all other students involved in work-education program related class activities.

First, it is now legislatively mandated as the least restrictive environment for the student.

Second, it will benefit both regular students as well as special needs students to have the class group comprised of various types of people and perhaps more closely resemble the general population that might be found at a place of employment. Whether the educational activity planned is general, vocational, or a youth organization activity, it should be an activity that is both individualized and related to on-the-job experiences.

Some of the more effective instructional techniques to use are problem solving activities, individual and small group projects, demonstrations and field trips, and other types of action research which draw from the students' on-the-job experiences and use the students as resources as much as possible.

Training Station and Training Plan

Job development is an organized way of locating a suitable training station. The first step is to prepare a list of local employers in the occupational area of the student's choice. The teacher-coordinator discusses placement opportunities with the student and begins contacting industries and businesses. When the teacher-coordinator visits a business, he or she should have discussions with the owner, manager, or personnel manager plus the supervisor of the department with whom the student would be working. Job tasks, provisions for training, and job entry requirements should be discussed. The teacher-coordinator should describe the student and identify any special needs which might necessitate special training procedures or a modification of tools, equipment, or machines. The teacher-coordinator should tell the employer how much supervision the student may require, what previous work experiences the student has had, and how he or she plans to work with the employer and student to insure a successful student work experience.

Highlighted in the training plan should be the opportunity for the student to learn how the company operates, the functions of other departments, and training in a variety of job tasks. With each year of experience in working with students and employers, the teacher-coordinator will become more skilled at locating companies, positions, and supervisors who are well suited for different types of students.

Business community attitudes

Although the business community supports education generally as a priority in helping resolve societal problems, few businesses actively recruit youth as a major source of new

personnel. The reasons that many businesses are not anxious to hire youth seem to be related to the tight labor market, unemployment rates, and the recent increase in the minimum wage which appears to have cut across all age groups of workers. The need to make a profit in order to survive as a business compels employers to select the best individual for the job, and, because of this, frequently an older or experienced person is hired.

Some of the specific obstacles to placement are state and federal child labor laws, restrictive clauses in union agreements prohibiting part-time employees, student transportation problems, employer concerns about liability and insurance, company policy against hiring minors, police record of some students, racial or sex discrimination still evident in many communities, limited job qualifications of students, employer's fear of a loss of time and added paper work, and periodic economic recessions.

If, however, the teacher-coordinator has confidence in the program, feels that the students have something to offer and can benefit from the program, and approaches potential employers by stressing the advantages of the program to their businesses, he or she should be able to develop a sufficient number of good training stations in spite of the many obstacles. Program benefits to the employer are:

- It provides assistance in recruiting and screening job applicants.
- It enables the employer to be a part of a school program.
- It trains potential full-time employees in the employer's own plant.
- It gives the employer a more direct return for the school tax dollar.
- It provides a better all-round entry level employee than the employer could ordinarily afford to train himself.
- It provides an opportunity for recognition by customers and the general public.
- It provides an opportunity to help youth get started in the right direction.
- It allows a means of employer input into the school curriculum.
- It includes assistance with developing in-plant training programs.
- It stimulates desirable attitudes toward work.
- It helps make the existing work force more safety and training conscious.

Summary

Work-education programs can be a meaningful part of a special needs student's Individualized Education Program. The majority of such students can benefit from a prolonged period of regular vocational instruction prior to any type of placement in employment. The work-education component and related class activities must be carefully planned and executed to meet the individual needs of the student. The special needs student should be a part of the regular work-education program related class because of the advantages to himself or herself as well as to the other class members. Training stations must be created and selected carefully. Training plans should be developed so that those involved understand the objectives of the school work program and student progress is closely monitored.

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How to Operate An In-Service Activity

Charles Greenwood
Raymond Morley

An increasing number of state departments, universities and local school districts have established career and vocational programming for special needs persons as a major priority area. With the current emphasis on expanding and improving services for special populations and the trend toward integrating special students into the educational mainstream, many educators recognize the need for closer coordination among local, university, and state educational agencies. Within some states, these cooperative efforts have gotten underway, particularly in the area of in-service education. In the state of Iowa, for example, representatives from these three agencies were recently involved in two cooperative ventures: 1) a state-wide survey of vocational educators to determine their needs and concerns in serving special populations, and 2) a summer, 1977 two-week workshop for interdisciplinary teams from several local school districts to assist them in expanding programs for special needs students within their respective districts.

These two activities enabled in-service planners to get a better feel for the needs of career and vocational instructors as they prepare to improve services for special needs students. A brief account of each activity will be presented, followed by several suggestions for organizing and conducting special needs in-service activities for career and vocational educators.

Vocational survey

The Iowa Survey was an attempt to: 1) identify the problems faced by vocational educators in serving special needs students, and 2) obtain proposed solutions for overcoming these problems. The survey was prepared by representatives from the Iowa State Department of Public Instruction and the College of Education at Drake University and was sent to all vocational instructors in the state. Roughly 80% of the instructors completed this survey.

It came as no surprise that vocational educators identified in-service education as their number one need for improving programs and services for special students. Similar to findings reported in other states, approximately 75% of the vocational instructors have had no training in serving special populations. In terms of the content for in-service education, most instructors felt techniques for identifying and assessing student needs, strategies for individualizing instruction, and procedures for acquiring an up-to-date knowledge of available resources and support services were needed and were rated in that order.

Although the need for in-service instruction received a top-priority rating, the respondents made it known that in-service activities should be complimented by other forms of assistance in order for effective programs to evolve. Additional staff resources (i.e., aides, tutors, resource teachers, additional teacher and counselor support) were given the number two priority. The need for additional planning time was identified as the third priority for program improvement.

Special needs workshop

To get a better feel for the needs of vocational teachers working with special needs students and as a first step in helping local districts plan and implement strategies for better meeting the vocational needs of that population, a two-week workshop was held on the Drake University campus during the summer of 1977. Representatives from Drake and the Iowa Department of Public Instruction served on the workshop planning team. Seven teams of local school district personnel attended the workshop; each team included a member of the administrative, counseling, vocational education and special education departments of the district. Thus, emphasis was given the interdisciplinary approach to special needs programming. Just as it is essential for an inter-agency mix to effect overall special needs programming at the state and university levels, it is equally important to involve persons in the various disciplines who can contribute special forms of expertise at the local level.

The summer workshop was an in-service exercise aimed at four areas of need expressed by school district personnel:

1. Awareness of federal and state legislative and administrative mandates and services available to help districts comply with legislative requirements.
2. Demonstrations and presentations of programs and projects sited as exemplary in providing vocational services to secondary special needs students.
3. Demonstrations and activities for developing skills in curriculum building for vocational special needs students.
4. Program development and proposal writing.

Figure 1 describes the activities and the resource persons who made presentations during the 10 days of the workshop.

One of the major outcomes of the workshop was the

Figure I—SPECIAL NEEDS WORKSHOP
Vocational Special Needs Workshop

OBJECTIVE	WORKSHOP ACTIVITIES
I. Awareness of legislation, funding and services available to implement and support local vocational special needs programming efforts	Presentations by personnel from: 1. Iowa Department of Public Instruction: a. Special Needs b. Vocational and Career Education c. Special Education d. Guidance Services e. Curriculum and Supervision f. Research, Planning, and Evaluation (including Title IV, E.S.E.A.) 2. Iowa Vocational Rehabilitation and Education Services 3. State Youth Coordinator's Office (with emphasis on CETA youth programs) 4. Governor's Committee on Employment of the Handicapped
II. Awareness of exemplary programs and projects	Presentations by personnel from: 1. Local school districts 2. Area Education Agencies 3. Area Community Colleges Visits to: 1. Local school for handicapped students, K-12 2. Goodwill Industries 3. Local vo-tech community college and career exploration center
III. Vocational special needs skill development for assessment of students, individualizing instruction, and general instructional techniques	How-to-do-it exercises led by: 1. University personnel 2. Area vo-tech community college personnel 3. State department consultants 4. Local education personnel
IV. Program development and proposal writing.	Team planning sessions with workshop staff: 1. Team brainstorming sessions 2. Team planning day 3. Writing and submitting proposals

Figure 2—LOCAL ACTION PLAN

TEAM	PURPOSE	FEATURES
School District A: Small, county-seat community.	To provide vocational exploration, career awareness and work experience for junior high special needs students.	1. Late afternoon career instruction for special needs students on a voluntary basis. Transportation provided by the district. 2. Project Discovery materials will be utilized. Purchase of these materials will not be necessary since they are available from a neighboring school. 3. Work-experience will be available to selected students.
School District B: Large, industrial community.	To assist special education and special needs students through vocational training by providing a special education resource person to assist the vocational industrial teachers.	1. One special education teacher assigned half-time to assist vocational teachers with instructing special learners: a. with math skills, b. with reading skills, c. with social skills, d. with career awareness. 3. Work-experience provided by Area Education Agency work-experience coordinator.
Area Education Agency A: Ten-county service agency.	To provide an assessment system usable by all districts within the Area Education Agency (A.E.A.), to provide support for writing an individual vocational training program for trainable, handicapped students, and to contact with various school districts for appropriate vocational insturction.	1. A.E.A. would develop a mobile assessment system. 2. A.E.A. staff would assist in developing vocational training plans, vocational placement, and IEP's. 3. A.E.A. would enlist help of classroom teachers in developing IEP's. 4. A.E.A. would assist in gathering other resources (occupational therapists, psychologists, etc.) to aid student development.

development of individual team plans to expand services for special needs students within the participating school districts. Each team was provided an action planning instrument for accomplishing this activity. The action plan included the following sections:

- A statement of local program needs.
- A list of long term goals and short term objectives.
- Some strategies for attaining stated objectives.
- Resources needed.
- Anticipated outcomes.
- Anticipated follow-up support needed during first year

The teams were guided through the planning format on the fourth day of the workshop. During that day a preliminary plan was drafted. The final version of the action plan was developed during the last two days of the workshop, at which time a tentative budget was prepared and the total plan was submitted to a representative from the Special Needs Division in the state department for funding. Hence, each team came to the workshop, prepared a local action plan and received notification of funding status before leaving for home. The funding amounts for each team varied, ranging from $2,000 to over $19,000.

A synopsis of three local action plans developed during the workshop is presented in Figure 2. A look at the three district plans reveals the differing needs of each school district. Perhaps the most important accomplishment of the workshop was providing pertinent information and instruction to all participants and providing time for each team to take this information and mold it into a plan to meet their own particular local school district needs.

Throughout the following school year, representatives from Drake and the state department are available to each team for follow-up technical assistance. This assistance varies, depending on individual team needs. However, such activities as updates on innovative programs and on site problem-solving sessions are conducted with each team. Further, a second workshop for additional local district teams is planned.

Organizing in-service activities

In setting out to design an in-service program related to serving the special needs students, the following considerations are offered:

- Assess the needs of the staff as the basis for establishing in-service content. Determine their concerns and seek their recommendations.
- Determine the scope of your in-service program. Is it strictly for industrial educators or for all vocational educators? Will special education, counseling and other specialists participate in the in-service? Will they serve as participants or will they be consultants?
- Organize a planning committee to help answer some of the above questions and assist in planning the in-service program content and structure. Will this committee involve both teachers and administrators? Will representation be sought from special needs specialists at the local, university or state levels?
- Planning the in-service program. Will the in-service be conducted on a short-term intensive basis, like a summer workshop, or will it be held on a continuous basis throughout the school year? How will the potential participants be identified and notified of the in-service program? What space, equipment, and material arrangements need to be made? Will special incentives be provided (i.e., stipends, released time, credit)? Since special funds are available from such sources as the state department and the U.S. Office of Education to help support in-service efforts, will these funds be sought? If so, who will be responsible for coordinating this effort?

Conducting the program

From information supplied by local vocational educators, special needs specialists and administrators, the following recommendations for conducting a special needs in-service program are made:

- Involve skilled practitioners in the presentation of in-service content.
- Emphasize how-to-do-it approaches.
- Encourage participant "doing" activities.
- Provide the participants with an opportunity to view successful programs and practices.
- Point out the existing services and resources available in the school and community to help instructors better serve special needs students.
- Consider follow-up technical assistance services for the in-service participants and seek their input for specific suggestions on the type of services needed.

This last suggestion gets at one of the major criticisms of in-service, particularly those of a short-term nature. In-service activities can and should be enjoyable, but they should also result in improved services for special needs students. Many excellent ideas are often presented during an in-service session, but for a variety of reasons they are frequently put aside and forgotten. A systematic plan for assisting the participants in implementing in-service strategies should be an integral part of a special needs instructional program.

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Education and the Handicapped

Fred McClure

Ladies and Gentlemen, these are the bare facts—the educational needs of many of America's youth have not been met because those in policy-making positions have not taken the time to chart a course based upon identifying just what students need.

Too often we have wasted America's education resources, both manpower and financial wise, on social experiments that have failed miserably. We see individuals who have great dissatisfactions with our educational policies as evidenced by anti-bussing protests, textbook protests and teacher strikes. This, in turn, compounds the financial problems faced by school districts in a time when local property taxes have reached their saturation point. We seem to have forgotten that the monies used to run schools throughout this nation are taxpayers' dollars.

Therefore, we must clarify our objectives for education. We must arrange our priorities such that the goal of our school systems will be to provide all Americans with enough education to permit them to play useful, productive roles in our society.

In January, 1976, *Newsweek* magazine suggested that tomorrow's lifestyles will be characterized by Americans who will worry less about "keeping up with the Joneses'" in dress, cars, homes or gracious living, and paradoxically will worry more about how to cope with inflation, crime and shortages in energy and food. Some economists and sociologists predict that Americans will spend more time in education. In 1985 it is estimated that 11.4 million persons will enroll in college; up 12 percent over college enrollments in 1975. The number of persons that are estimated to graduate from college in 1985 is 1.1 million; up 17 percent over 1975. The number of people receiving Ph.D. degrees in 1985 will total 43,000; up 19 percent over 1975.

Projections for 1985 also indicate that many college graduates will have trouble getting a foothold in what is and will probably be a limited job market. Consequently, students are expected to increasingly flood classes that deal with marketable skills. There can be no question but that the United States faces a new age in education. History indicates that even on the simplest levels of life, learning is the key to survival. We stand in an era characterized by space shuttles and the extension of the human brain by computers. Americans, more than ever, find a need for increased knowledge, understanding and added learning opportunities to cope with these changes. No wonder education is sometimes defined as "increasing the level of understanding." Advancing of the frontiers of knowledge, and passing that knowledge on to students, is getting more costly, too; both to educate the students and to train the teachers.

In 1957, Russia launched the first space vehicle and the response in this country was frantic! The emphasis in education immediately shifted to the gifted child. Special federal financing of mathematics, science and foreign languages was started. There was not a principal, superintendent, teacher, college administrator or professor who did not have a speech ready on new programs for the academically talented.

The shock waves, echoed across the country by this phenomenon, have subsided somewhat in the work world. Yet those historic vibrations continue to influence the attitude of parents and others regarding the best kind of education for our children which, in turn, influences the present day role of education.

Many of you in this auditorium and people throughout the Nation are guilty of constantly clamoring for quality education. Might I add that I am no exception. But, what does quality education really mean?

If ten people from all walks of life gathered in a room—educators, parents, politicians, students, businessmen, economists, sociologists and others—I would be willing to speculate that you would receive ten different, deficient depictions of what quality education signifies.

If we cannot reach an agreement on what quality education means; if we cannot reach a concensus on the purposes and goals of education, then we cannot possibly reach an agreement on whether success or failure is obtainable.

On one side, some people believe that education should experiment with the British open concept, team teaching, modular scheduling, alternative schools, trimesters, work-study programs or whatever to increase the quality of our educational programs.

On a different side, individuals think we have strayed too far from the Three R's of "Readin, Ritin and Rithmetic."

And yet on another side, there are those with the cynical, pessimistic opinion that, in reality, our elementary schools are "souped-up" day care centers and the secondary grades are detention centers which prohibit teenagers and would-be juvenile delinquents from the streets of our cities! Perhaps you might even contend that at least our high schools hold

down unemployment between September and May.

In a recent interview, former Secretary of Treasury John Connally addressed the issue of solving our unemployment problems. He contends that the way to deal with this staggering phenomenon is to begin with analyzing just *who* is unemployed and more importantly, *why* they are unemployed. He feels, and I agree, that a high percentage of the unemployed are unskilled people, people who need training, and ladies and gentlemen, that relates directly to our educational programs.

We continue to pour billions of dollars into creating jobs, attempting to solve unemployment problems, yet the numbers are by no means stabilized nor decreased and we continue to add fuel to inflationary fires. Far too many people leave high school, and even college, with *no real* skills.

A poll of everyone present at this moment would no doubt indicate that public education affects each of us in different ways. Schools must be judged first and foremost on the basis of how they affect young people—not on their ability to serve the interests of teachers; not on their ability to serve the interests of principals or the education industry; not on their ability to serve the interests of government bureaucrats or vested interests in the community—but on how they affect young people.

The changing nature of the job market means that educational courses must seek a broader basis. Education must satisfactorially match employment needs with the demands of the labor market. And this education must also provide the social mobility that satisfies human wants and needs. It must be meaningful not only in a social sense but in a financial sense as well.

Our nation desperately needs the productivity we are losing through unskilled entrants into the job market. It is abundantly clear from an economic standpoint that we must make a strong effort toward education which prepares young people for careers.

Our nation is fortunate to have realized this need and embarked upon efforts to include vocational education in our public schools. As educators, you must offer as many opportunities as there are available in the fields you work in by sharing your knowledge. By joining with business and industry, we must define and determine what changes occur in those fields so that students will not be under educated when they enter the job market. We must insure our society and economy that skills are offered to young people that match the industries' changing needs. We must not allow political affiliation or more directly, partisan politics, to overshadow the basic need of total career-oriented vocational education. Most important in our assessment is that all of those elements affecting vocational education must work together or we will lose sight of the role that individuals play in making the educational experience for today's youth the most meaningful and productive.

Education has played a decisive role throughout my life. My parents are both teachers by profession and my father spent 19 of his 36 years in education as a school principal. I graduated from the public schools in Texas, was a vocational education student and a member of the vital vocational student organizations which accompany our various programs. Although my primary duties with Senator John Tower involve agriculture, I also am responsible for legislation in the fields of vocational and career education.

Senator Tower is a longtime supporter of the educational community. He has devoted most of his adult life, other than his years as a United States Senator, to education since he, like yourselves, is an academician, a teacher and an educator.

In the Senator's words, "Education must be available to all our citizenry. But to the meaningful and fruitful, [illegible] education must always take cognizance of the lasting worth and value of the individual."

During this conference, you have been and will be focusing upon vocational education and how it can best be made available to all our citizenry. Particular emphasis is being given to the Education for All Handicapped Children Act of 1975 which was passed by the 94th Congress and signed into law by President Ford. This legislation represented a giant step forward in efforts to meet the needs of some 8 million handicapped children in this country. In essence, the legislation promised and made it easier for handicapped children to have the educational opportunities that have long been considered the right of every other American child.

It is the purpose of this Act to assure that handicapped children have available to them a free and appropriate public education which emphasizes special education and related services to meet their unique needs. We cannot afford to let physical and social barriers prohibit our nation's youth from obtaining the preparation to assume their full share of responsibility for this world in which we live.

When this legislation was considered, ladies and gentlemen, many of its opponents voiced concern, not because it provided greater opportunities for the handicapped, but because of fears that the high administrative costs might result in deflecting a large portion of the Fed[illegible] funds earmarked to assist State and local efforts from the children and into administrative budgets. It is imperative that the money be directed at the target population—the students; and not to be entangled in the process of providing services.

Perhaps that is the reason Senator Tower contends, "We must be on guard against our education systems and institutions being administered and controlled from afar, administered and controlled by a bureaucracy which feels *it* and not local people must guide our educational system." Local school boards and local state education agencies are far better able to direct the progress of our education than are those far removed from our schools and their educational programs. They must be judged first and foremost on the basis of how they affect young people—the target population.

Various professional organizations of which you are members have had significant impact in the shaping of the legislation and regulations designed to implement the Handicapped Education Act, the Vocational Education Act Amendments of 1976 and other laws important to education. I beseech you to *not* stop at this point! If students are to be benefitted by the knowledge you impart, then you, as a part of the grassroots level, should be able and willing to shape the policy which affects the course of education in your community. However, if you cannot motivate yourselves enough to participate in this manner. don't expect those making p[illegible] decisions to know what your concerns are. Don't blam[illegible] them! Regardless of what is said or done at the state level, or the Federal level for that matter, it is at the local level that the change in education must come.

You are in a position of great importance for you are the

ones that shape the minds of the people who will ultimately lead and guide this Nation in the years ahead.

Today's student wants you to be *more* than just a teacher or educator, but to be an individual whom they can count on to "shoot straight from the hip" you might say. They do not want to be parts of social or educational experiments, but want to reap the benefits of education in order that they can cope with society and the trials of an ever-changing job market.

Someone, somewhere must guide and direct education toward meeting the needs of our young people, no matter what disadvantages they possess. I say meeting these needs, because we are rapidly reaching the point where the free lunch, the give aways, are running out; that is, unless *you* want to pay higher taxes!

I am *convinced* that you have not done enough, you have never done enough so long as it is still possible that you have something of value to contribute. The secret of your success as educators will be constancy to purpose and dedication to serving students by meeting their needs.

Whether we live in a have or have-not nation, or community, the greatest wealth each of us has is himself—his ideas and ideals, his talents and energies, his nerves and his muscles. By sharing the qualities of our lives with others, we impart to them the most prcious of our possessions.

I think the words of Abraham Lincoln put everything into perspective. "A child is a person who is going to carry on what you have started. He is going to sit where you are sitting, and when you are gone, attend to those things which you think are important. You may adopt all the policies you please, but how they are carried out depends on him. He will assume control of your cities, states and nations. He is going to move in and take over your churches, schools, universities and corporations . . . the fate of humanity is in his hands."

I believe it is time that we hold our public schools accountable for their products which are our young people. Let's make it flexible and changeable . . . a system that offers opportunities to all people in all types and in all walks of life, for all kinds of occupations. That means an education system responsive . . . *not* to a mass of people, but to each and every individual!

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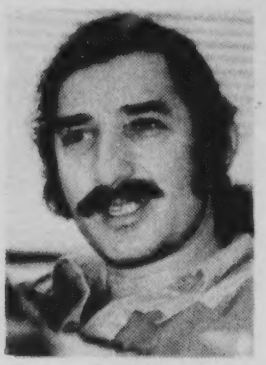
Meeting the Needs of the Handicapped

Marc W. Gold, Ph.D.



Introduction

When the National Advisory Council provided the title for this presentation, they left an almost limitless range of possible topics. What is handicapped? Does that include individuals who are blind and deaf or who have behaviors that give them labels such as profoundly retarded, autistic, custodial and chronically mentally ill? What are needs? Does this include full acceptance by society? By some small segment of the society? Economic viability? If, indeed, there must always be a surplus population in a capitalistic society, are the handicapped prime candidates for permanent inclusion in this pool? And if so, then what are their needs? Since vocational education and education in general have only recently begun to consider their responsibility as including those individuals who find it most difficult to learn, perhaps we had better begin by examining the concept of handicapped by distinguishing it from not handicapped or normal.

How does one get to be normal? It is not by adding a collection of things together so that one "fills up enough of his cup" to make it into normalcy. It is, instead, a complex interaction between a person's competence and his deviance, that is perceived by those around him as resulting in a net positive balance. Each of us remains in his various roles as members of communities, spouses, employees, friends, etc., only so long as the significant parties to those various roles continue to perceive us as having more things about us that are wanted, needed and not readily available (competence) than those things about us that bring negative attention and must be tolerated (deviance). According to the Competence/Deviance Hypothesis: The more competence an individual has, the more deviance will be tolerated in him by others (Gold, 1975). Using job performance as an example, if one performs successfully at a task which is essential to the business, and which no one else can perform without considerable training, that individual would have to display considerable deviance for dismissal to be considered. From this perspective, a meaningful definition of "normal" or "handicapped" requires recognition of this complex interaction between competence and deviance.

The phrase, "Hire the handicapped", for example, is a self-defeating marketing strategy. No one in business or industry wishes to expend resources to carry someone on their payroll. And no one wants to be hired because of his deviance. A more facilitative slogan would be, "Hire the competent . . . and know what competence means". Meeting the needs of people who have been labeled handicapped really means to fulfill the needs of society, the needs of business and industry and everyone else, except those whose need is to always have someone who needs them. To begin to meet these needs, we need only revise two of the basic assumptions which obviously underly current efforts. First, we must move away from a strategy that focuses almost exclusively on the elimination of deviance and towards a strategy that focuses almost exclusively on the development of competence. Second, we must recognize the inherent futility of benevolence as the energy source for meeting the needs of individuals who have been labeled handicapped. Give me dignity, give me respect, but give your benevolence to someone else.

The position taken here is that virtually all of the current attitudes, assumptions, and practices in the fields of education and rehabilitation preclude genuine and full participation of severely handicapped individuals in society (Gold, 1973). Those individuals with sensory handicaps, speech defects, minor emotional difficulties and mild physical disabilities are seen as basically intact systems with malfunctioning subsystems, that is, "They're just like us but their eyes don't work, or their legs don't work." Our responsibility to these people is one which we have recently come to accept as providing the resources to give them sufficient competence to maintain a positive balance and therefore to be accepted as equally participating members of society. Since we see them as intact systems, we have no trouble justifying the expen-

diture of resources because of the predicted favorable cost/benefit ratio.

For those individuals with developmental disabilities, as they are currently described, individuals with moderate, severe and profound mental retardation, autism, severe physical and multiple disability, and the severely disturbed, we have a much different problem. We, as a society and a profession, view these individuals as malfunctioning systems and, as such, incapable of achieving full participation in society. We have a long standing tradition dictating how we deal with malfunctioning systems and how we deal with intact systems which contain malfunctioning subsystems. Take the automobile as an example. You step out of your home one morning, get into the car, attempt to start it and find that nothing happens. The local garage sends out a man who says the battery is dead and needs replacing, the alternator is broken and some of the wiring needs to be replaced. The car will not move but it is clear that it is an intact system and that the repair of the three malfunctioning subsystems will result in successful operation of the system. The decision is simple, fix it. Some of you may have had a different car, one that sat in the backyard, was without wheels, without a windshield or upholstery, and missing the carburetor, the radiator and the hood. Do you remember telling friends that the transmission was perfect? That the car had a new set of brake shoes? That the car had had a tuneup just 1500 miles ago? Of course not! This car is obviously a malfunctioning system and as such, intact subsystems, except to the junkman, are of no interest. Like the first car, the decision is simple. But, in this case, forget it, it is junk. One does not put resources into a malfunctioning system, one replaces it. There is one other car to discuss, the borderline car. It needs tires, a battery, a valve job, a new radiator and a paint job. What should you do? The only really difficult decision is deciding if it is a malfunctioning system or an intact system with a number of malfunctioning subsystems. Once this decision has been made nothing else is difficult. Once we have decided whether or not something is an intact system or a malfunctioning system that decision provides the basis for justifying either the use of resources to repair subsystems or the replacement of the system. This society has implicitly conceptualized some of its citizens as malfunctioning systems. Having done so the best it hopes to do for those citizens is to take them out of their big old wrecking yards and put them into little pretty ones. The current movement to deinstitutionalize many of these persons has, in most cases, done only this. Some of our citizens with severe retardation are now watching colored television with two other people instead of black and white television with a hundred others. They are being taken care of better, living in nicer places, but they are still in the wrecking yard. Very few of them are "on the highway". For this to happen each of them must be re-perceived as an intact system with, in many cases, severely malfunctioning subsystems. To do this, we must take one subsystem, and show it to be thoroughly functioning and competent. When this happens we will then have to acknowledge that an intact subsystem cannot be observed functioning unless it is existing within a basically functioning system. Vocational skill performance is just such a subsystem. When we did an experiment to train individuals with severe and profound retardation, who are also blind, to assemble a complex industrial task (Gold, 1976), the ward staff who brought them to the research room, upon seeing them successfully assembling the task, asked why, if these individuals could do this, did they have to be dressed, fed and transported all of the time? Since then, all of these skills have been taught to these individuals. Once competence is demonstrated one cannot help but look for more competence.

Meeting the needs of the handicapped requires, then, identifying relevant societal values, priorities and resources. Strategies must be developed with a strong awareness of the context in which individuals with handicapping conditions will exist. The following section attempts to provide some description of the current context.

II. Current Trends and Their Implications

The field of education has long suffered the bruises of jumping on and falling off of bandwagons. Many of these bandwagons have a reasonable, conceptual and empirical foundation. The unit approach to teaching social studies (e.g., Ingram, 1953), the phonics method of teaching reading (e.g., Chall, 1967), and open classrooms (e.g., Featherstone, 1971) all might be so described. The problem with these becoming bandwagons has been that school systems have jumped on without learning how the wagon was constructed or where it was going. The results have been unfortunate.

The current movement to "mainstream" individuals who have been labeled handicapped is an interesting example (e.g., Birch, 1974). The basic notion is that pupils who have been served in special classes should be served in regular classes along with pupils who have not been so labeled. Support for this movement has included more than a dozen efficacy studies which failed to show significant advantages of special class placement for children labeled educable mentally retarded (See Kirk, 1964), litigation questioning the constitutionality of selection procedures for special classes (e.g., Bailey, 1972; Rosen & Solozanis, 1974) and budgetary considerations. Observation of most attempts to provide vocational education for handicapped individuals shows a lack of awareness of this literature. Most of these attempts still segregate individuals with special needs into classes that are just for them and, in some cases, schools that are just for them. Attempts to meet the requirements of legislation calling for the expenditure of ten percent of federal funds to meeting the needs of individuals with handicapping conditions have also tended to be either segregated programs or outright misuse of the funds. The position taken here is that programs for normal individuals show a lack of systematic training strategy. Pupils are exposed to machinery, procedures and techniques and, with little assistance and carefully planned instructional technology, acquire enough information to satisfy those evaluating such programs. This may be fine for normal students, but under these circumstances, it is no wonder that individuals with special needs have been viewed as unsuccessful when integrated into these programs. For individuals with mild handicapping conditions, a shift by vocational educators to a more structured and carefully designed instructional environment for all students would allow individuals with special needs to enjoy success in an integrated circumstance and would probably yield significant increases in the skill capabilities of normal students in such classes.

For students with more severe handicapping conditions,

the issue is more complicated. Under what organizational structure should these students be taught? The tendency, as with so many of the other movements, is to oversimplify, in this case, the distinction between mainstreaming and special class placement, as a simple dichotomy. Also, as with many of the other movements, the basic issue of what is best for the student has obviously been a low priority consideration. Decisions on where to teach should be based on the specific pieces of learning, information or skills with which a community wishes the students to leave school. Then, for each of those, decide where and how they are best taught. This will result in an organizational structure where the individual who has difficulty learning will acquire some skills along with individuals who do not have such difficulties; will acquire other skills with individuals who have problems similar to his; and will acquire yet other skills through individualized instruction. One need only listen to the compelling arguments on both sides of this issue to realize the need for a continuum of options. The development of these options by vocational educators might be one step in their pursuit of a leadership role in education.

Right to Education is another current bandwagon in education. This movement got its start in Pennsylvania where the courts mandated that the educational system of the state serve all school age pupils (PARC, 1971). One by one, most states are now legislating such action so that, on an increasing basis, schools will be required to provide services and programs for all school aged individuals including those who are most difficult to train. While there seems to be a general consensus that such individuals have a right to education, there is considerably less of a consensus as to whether or not the public school should be the service entity providing this education. In any case, children categorized using the educational jargon "trainable" and "subtrainable" will eventually be an integral part of our public school systems. Will we meet the letter of the law by simply having them there or will we develop viable programs for doing something with them? Vocational education, again, has the opportunity to provide important leadership in the development of programs which can have more of an impact on the lives of the individuals to be served than any program has ever had, the difference between societal existence or custodial care.

Another current trend which can contribute to both mainstreaming and Right to Education activities is the developing cooperative relationship between vocational education and special education. This trend, which began originally between vocational rehabilitation and special education, through the efforts of Charles Eskridge in Texas more than a decade ago (Eskridge & Partridge, 1963) seems to finally be a part of many public school and university efforts involving vocational programs for individuals with mild and moderate developmental disabilities. A current example is the series of National Workshops on Special Needs Vocational Teacher Education developed by Rupert Evans at the University of Illinois. The first workshop, held in 1975, received applications from over 70 institutions throughout the country, a strong indication of interest in this area. Another aspect of these conferences, of particular interest here, is that the impetus for this activity came from the vocational education sector rather than from special education, as has tended to be the case. The tendency, in fact, throughout this movement has been to pawn off the responsibility to special educators. To successfully address this problem, it is going to require full utilization of all of the resources and knowledge of both of these disciplines and probably some others, also.

From the special education side of this coalition individuals such as Gary Clark (e.g., Clark, 1974), Donn Brolin (Brolin, 1976), William Younie (e.g., Younie & Clark, 1969), Charles Kokaska (Kokaska, 1974), and others have begun to increase the communication between these two disciplines and establish priorities and goals out of which some programs have begun to emerge. With the exception of programs for the deaf, the overwhelming majority of the work that has been done as a cooperative effort has been limited to service to individuals with mild handicapping conditions. Although there are now more students receiving better service, expectancies for the vocational capabilities of individuals emerging from such programs have remained not much different than they were prior to cooperative programs being established. At present, then, there is a good base from which to build programs giving individuals with mild, moderate and severe handicapping conditions a better crack at the world of work than they have ever had before.

Another trend in the delivery of services to persons with handicapping conditions is the overwhelming emphasis on quantity at the expense of quality. Limited resources, a legitimate interest in serving all of those individuals who need service, the need to focus initially on the acquisition of basic resources such as space, staff, equipment and funds, have all mitigated against the development of quality services. It seems that each time a program finally has the resources to move into quality programming, a decision is made to drain resources away to expand the program quantitatively. The result has been, for the most part, that many more individuals in many more places are receiving services but the services they are receiving are usually no better than what a fewer number of people received in the past. This strategy should be changed. We should be improving services not just giving them to more people. The demonstration of major significant performance by individuals who have been labeled handicapped, especially severely handicapped, is a more viable strategy to increasing available resources than showing little or no growth in many individuals (Gold, 1973). This strategy is not made easier by the other trends mentioned which have called for access to available resources by all individuals concerned. The long range goal of high quality service to all individuals in need of such service, however, is more attainable if we focus on quality first and quantity second.

The last trend discussed here relates to vocational training strategies. Almost all of the "strategies" found in programs are actually organizational structures rather than strategies, for example, on-campus work experience programs, on-the-job training, classroom instruction and real or simulated workshop experience. The focus of attention has been on these organizational structures rather than on the actual instructional technology to be used in those settings. The result has been that most learning which has occurred resulted from exposure in these settings rather than from systematic and carefully designed manipulations of these various environments. It is to our advantage to have a wide range of organizational structures available within which to provide training, however, none of these structures will carry us very far in the absence of well developed instructional

technologies.

These trends simultaneously point up the tremendous growth we have undergone in the last twenty years and the urgent need for significant and major changes in what we are doing: We've come a long way, baby, but we've got a long way to go.

III. The Future: What Might It Be Like?

The list below reflects a firmly entrenched optimism. For those who do not share this optimism a different list would have to be developed.

1. The proportions of unskilled, semi-skilled, skilled and professional jobs in this country will remain basically unchanged, however, specific jobs within each of these categories will come and go (Nixon, 1970). Decisions regarding the training of any individual, no matter how handicapped he is perceived to be, will rest on a carefully arrived at decision as to whether or not a job can be subdivided into teachable components rather than on some general feeling about the complexity of the particular job, as is now the case (Gold, 1976). The result of this will be that individuals with all kinds and severities of disabilities will be found in a tremendously wider variety of positions than is now the case.
2. Vocational training programs for persons who have been labeled handicapped will contribute individuals to the labor pool who are so clearly competent at a wide range of specific functions that those things which would previously have kept them from opportunities in the world of work will do so no longer. Business and industry will come to recognize the advantages of revising their recruitment, hiring, training and supervisory practices so as to gain access to this valuable new labor source.
3. The Protestent Ethic will continue to lose ground but a person will continue to be known by what that person does for a living (Parker, 1971). For those individuals whose observable deviance is minimal or nonexistent, acceptance by members of society and community will continue to be enhanced but not determined by their vocational contributions. Individuals with observable deviance, especially those with severe disabilities, will come to be seen as thoroughly participating members of society and of communities, peers in virtually every respect, first through their contributions to the economy, and second, through the same mechanisms as the rest of us, once society has reason to look beyond those things that have distracted us.
4. The proportion of life skills that individuals acquire outside the school will increase. For some kinds of learning this means that schools will continue to develop activities outside of the school building and be involved in the use of those activities. It will also mean that schools, as entities, will contribute less and less to the educational process. Other viable teaching entities will include community groups, private enterprise, television, private individuals and a wide range of individual and group auto-instructional activities. Following some adjustment problems, schools will take the opportunity to significantly increase the quality of instruction in those areas that continue to remain responsibilities of the schools to teach.
5. Sheltered workshops will continue to be a significant part of the vocational lives of individuals with severe handicapping conditions. They will undergo major changes in their operational philosophies and practices or go out of existence because of poor business practices and lack of public support. As sheltered workshops begin to show their capabilities to provide genuinely meaningful training and work to individuals with severe handicapping conditions they will become defined as special places where normal work is done instead of places where substandard work is done. Vocational education and special education will utilize sheltered workshops, however, the use of sheltered workshops as a convenient dumping ground for individuals with mild handicaps will cease.
6. Post-high school education will be utilized more and more to obtain information not specifically related to vocational goals. Self-help skills, crafts, recreation and other aspects of adult life will be pursued in adult education programs, colleges and universities. Public schools will begin to focus more on providing the groundwork for this kind of adult and continuing education. Vocational educators might expect to be held increasingly accountable for providing the groundwork for this kind of adult and continuing education. Vocational educators might expect to be held increasingly accountable for providing all individuals with a broader set of basic skills such as tool usage, home and auto repair, practical measurement skills and, perhaps, an even wider range of specific practical skills. The development of effective, efficient programs to meet these needs should include the teaching of these skills to all individuals with special needs served by public schools.
7. The whole issue of accountability is one that will have to be increasingly addressed by vocational educators. As advocacy continues to increase in popularity in this country, we can expect communities to become more and more demanding of benefits resulting from vocational education programs. If vocational educators maintain a leadership role in recognizing changing societal value structures and in addressing them, then they can maintain control over their own destiny. If societal needs are not addressed, however, vocational educators will find their options constrained by mandates. The mandates to spend ten percent of all federal vocational education funds on the handicapped and another fifteen percent on the disadvantaged are clear examples. If vocational educators had initiated strong, visible programs for such individuals, these mandates would have never come about. Passive leadership at this time in our development will probably result in more and more constraint on the options open to vocational education programs.
8. Pluralism will continue but the rules of the game will improve. Most of us in vocational education, special education and other disciplines and professions have spent all or most of our careers existing in a booming economy. Rapid program development has been the rule rather than the exception and, only recently, has there been strong demand for cost-benefit jusitifcation. It seems reasonable to assume a stable but not rapidly growing economy, and that this set of circumstances will remain

for a long period of time. If this happens, all of us special interest groups will be competing more than ever for available resources. The combination of the advocacy movement, limited resources, increased political accountability and public awareness in general should result in funds being distributed on the basis of demonstrated effectiveness in meeting current societal needs. If vocational educators are able to demonstrate major gains in the quality and quantity of skills in the people they serve, utilizing the resources they already have, they should expect a front row seat at the trough. Those disciplines that continue to demand more and more support in the absence of clear cut effective utilization of existing resources will probably die.

IV. Conclusion

We are an enlightened, capitalistic society. We believe in the profit motive and in private enterprise to a point beyond which we become offended. We continue to have faith in the democratic process, but our minorities are becoming increasingly important to us. Each of us has special interests, as has always been the case, but we each probably have more special interests than people have ever had before, allowing us, as a society, to broaden our acceptance of divergent points of view.

The boundary conditions of normalcy continue to undergo major expansion. In almost every aspect of our existence we have modified what we believe normal to be. For each of these, what is normal now? Marital status? Sexual preferences? Hours worked per week? Years of schooling? Longevity at your present job? How many friends does the average person have that have things about them that might cause them to be labeled handicapped? What is normally thought when someone gives birth to a child with a major problem? Which political part is right?

In our lifetime people who are very different than people most of us have ever really known, lovely people, will be moving into our communities, living next door to us, growing up in our families, marrying our children and interacting with us in every conceivable way. Doesn't it make sense that they should have everything we have in the way of the opportunity to make it? Vocational educators could provide these citizens with many of the critical skills needed for full successful participation in society. For many of these skills vocational educators are the only logical and competent source.

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Individualizing Instruction

William D. Wargo

Individualized instruction simply means that learning events are tailored as closely as possible to the individual learner's needs. This applies not only to the special needs student but to all students. Usually, however, a greater variety of individualized teaching methodologies are required for the student with special needs.

It must be strongly emphasized that for the special needs student the basic content, goals and objectives of industrial education should remain the same. We mention this because frequently industrial education teachers feel that a drastic revamping of educational objectives is necessary for teaching the handicapped. But if this were so, the purpose of providing equal educational opportunity for all special needs students would be defeated.

Two common practices for meeting individual needs are varying the pace of instructional progress and letting students go through instruction at the rate that is best for them. Other practices involve varying instructional resources, using both materials and media, and basing evaluation of learning on pre-established standards of attainment for the individual learner rather than on comparisons with the attainment of other learners.

Strategies

Following are a few strategies that you might consider for individualizing instruction of special needs students.

Tutoring. A teaching strategy frequently used with the special needs student is tutoring. Four types of tutoring practices are quite successful in individualizing instruction for the handicapped.

First, there is instructor tutoring: the teacher interacts with the learner on a one-to-one basis to facilitate achievement.

Second, there is the use of students enrolled in an advanced industrial education program to provide instruction on a one-to-one basis. Oftentimes these students serve as tutors as part of their industrial education club activity.

Third, there is peer tutoring, sometimes referred to as the "buddy system." In this approach, students who are currently enrolled in a course and who have already achieved an objective are paired with those who have not mastered that objective.

The fourth tutoring practice enlists the aid of community volunteers. This may include college students, retired persons, part-time workers, or any other persons who have the required skills and time. Frequently these persons are not only skilled in a craft but are also skillful teachers. In incorporating the tutoring approach the instructor is usually the most immediate person available. Efforts should be made, though, to locate as many kinds of tutors as possible.

Flexible grouping. In flexible grouping a class is organized into different sized groups for specific purposes or to provide a variety of experiences. Flexible grouping can be used for numerous reasons: for example, to increase motivation, to provide emotional and academic support for the students, or to provide a simulated on-the-job environment. An additional and perhaps most important advantage to flexible grouping is that it allows special needs and non-special needs students to work together productively. Some common learning activities utilizing this method are simulated job interviews, mass production activities, and role playing labor/management disputes. Other uses of flexible grouping may involve a field trip to a job site or the diagnosis or solution of a particular problem.

Selection of media. A major consideration in the individualization of instruction for special students is the selection and use of media. Although there is a vast array of media available to industrial educators, certain disabilities and handicaps cancel out the central features of some media. Obviously, the blind student cannot watch films, audio-oriented media cannot serve a deaf student, and complex printed materials are of minimum use to a student who is experiencing reading problems.

Special considerations

Following are a few tips for individualizing instruction for students with various physical, learning and behavioral problems. For each type of learning difficulty, the selection of specific techniques will obviously need to be based on assessment of the individual needs of each learner.

Students with hearing problems. When teaching the deaf or hearing impaired student, visual oriented media should be used extensively. Classroom lectures should be held to a minimum. When lectures are used, the deaf students should be located in the best possible positions for lipreading. Proper amplification for hearing-impaired students is vital. all new vocabulary and concepts should be taught prior to beginning an activity. Beforé entering a workshop with noisy

machines, hearing-impaired students should be warned to turn down the volume of their hearing aids to avoid painful noises. Demonstrations should always supercede actual instruction. A basic knowledge of manual communications is also desirable. Finally, all methods of communication have to be used with severely hearing-impaired students in order to open every avenue of learning. These may include speech, listening, mime, reading, writing and other efforts to communicate ideas.

Students with visual problems. Five basic learning modes are important when teaching visually impaired or blind students. These are memory, visualization, auditory perception, factual perception and kinesthetic memory.

Because blind students cannot refer to written instructions and diagrams they must memorize and become thoroughly familiar with sequential steps in using machines and tools. Actual examination coupled with verbal description can impart a mental blueprint of an object or piece of equipment. Thorough touching and feeling of a product in its successive stages of completion is another form of visualization.

Sound is useful for identifying and locating objects. Variations in sounds made by a machine can indicate the machine's stage of operation. For example, the sound made by a power saw changes when the cut is completed. Cassette tapes are a practical way of helping visually handicapped students to learn and memorize.

A few special tangible aids such as braille tools are available. To avoid the danger of a blind student accidentally bumping into power tools and equipment, a wise precaution is to have a pad or slightly raised lines surrounding danger areas. This way a blind student will be alerted to the proximity of machines through the touch of his foot.

Students with learning and/or behavioral problems. When teaching students with social, reading or general problems in learning, several considerations are critical. Tasks should be uncomplicated and new tasks should contain the fewest possible elements so that the learner has very few unknowns to contend with. Phases of information should be brief so the learner will grasp the most important aspects and not get lost in a long sequence of interrelated events. Each new bit of information should be based upon previously mastered items. The attainment of success is needed to overcome the major problem of failure proneness. Once a skill has been learned additional practice is advisable. "Over-learning" should be built into lessons.

Drills in game forms seem to lessen the disinterest inherent in unimaginative drill. Tasks should be as concrete as possible with projects, tools and procedures being demonstrated and displayed throughout discussions.

Students with physical problems. Teaching orthopedically or health impaired students normally requires some modification of your physical facilities. Ramps instead of steps are required for students who are in wheelchairs or on crutches. Hand bars at machines, benches and water fountains are a great help and are relatively easy to install. The removal of desks or other obstacles is often necessary to accommodate wheel chairs. Furniture will need modification for students with braces. Rubber mats on slippery floors will prevent slipping or falling. Depending on the severity of the handicaps, special devices for keeping tools and pencils from rolling to the floor may be required as well as book holders and mechanical page turners.

Implementation

Once planning for individualized instruction has taken place, it is vital that specific consideration be given to implementing the planned strategies. Implementing individualized instruction involves providing information to students as well as providing feedback to the students regarding how well they are doing.

One means of providing information and feedback is the behavioral approach to classroom management. This approach has been used with a certain amount of success with a variety of special needs students. Basically, this approach endeavors to change behavior systematically on the theory that most behavior is learned and therefore can be changed through learning. Main aspects of this approach involve individually selected and applied "target behaviors," "reinforcers" and "punishers."

Target behaviors normally focus on developing desirable behavior, maintaining desirable behavior, or restricting the occurrence of undesirable behavior. Examples of target behaviors include: observance of safety rules, courteous treatment of co-workers, positive statements about one's work, following directions, proper handling of equipment and the economical use of materials. When the teacher focuses on one or more of these behaviors, it is important that these goals or "targets" be communicated to the student.

Reinforcers are those events or things which are viewed positively by the student and make future occurrences of the target behavior more likely. Three ways to discover activities that reinforce a student's desirable behavior are to observe his voluntary activities and interests, to have him list or state his preferred activities, or to use trial and error until a reinforcer is found. Some reinforcers that have been effective are verbal praise, opportunities to work on personal projects, public display of good work, take-home projects, frequent breaks during difficult assignments, certificates of completion, field trips, work on community projects and the opportunity to be a shop supervisor.

Punishers are utilized to make future occurrences of undesired behaviors less likely. A punisher may be as mild as an expression of disapproval or a verbal reprimand, or as severe as removing reinforcers which the student has already been given. Another punisher commonly used with special needs students is the "time out" approach which removes the student from the environment. For example, the student might be directed to sit down for five minutes at another location without any talking or any positive reinforcement. Other commonly used punishers include: giving a low grade, keeping a student after school, requiring that an assignment be done over or that a student do extra work, separating students, requiring a student to apologize to an injured party or to pay for damages, or giving demerits.

Successful use of behavioral management strategies requires that an industrial education teacher (1) zero in on one or more target behaviors and (2) provide the necessary reinforcers and/or punishers in accordance with the individual student needs. In some instances it will be necessary that the management strategies selected be coordinated with the strategies of other staff members such as remedial reading or special education teachers, counselors or social workers.

Two comments about teaching special needs students

will be made in closing. First, providing individualized instruction for special students should not be interpreted as meaning that they are to be taught in isolation from others. This would not only be costly but would deny them social and psychological stimulation which is very important. Individualized instruction should be aimed at the total educational needs of the individual rather than at a specific condition.

Finally, early prevocational and vocational studies must be provided. Opportunities to develop interests, attitudes, skills and self-concepts at an early age are a prime consideration in the academic, social and emotional development of special students. Traditionally, special needs students have been excluded from meaningful prevocational experiences during their formative years in the middle and elementary schools. This exclusion may severely damage their confidence to pursue vocational subjects in later years. When this happens, it is doubtful that vocational education will be able to adequately prepare special needs students for an occupation for which they are potentially suited.

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Concepts and Issues Concerning Special Needs Students

Robert M. Tomlinson
John N. Fabac

What do the terms special needs, handicapped, etc. mean?

Many of the terms being given special attention today have their basis in various pieces of federal legislation; they are the latest wave of a long standing practice. The term "special needs students" was initiated in the federal vocational acts and regulations. It is a generic term used to include the three separate and distinct sets of funds, regulations, and provisions for each of the handicapped, disadvantaged and those for whom English is not the primary language. Several separate federal acts, in addition to the vocational education acts, have various provisions for each of the three groups included within the term special needs students.

From an educational perspective, the concept of students with special needs has both merit and utility. The individuals in each of the included subgroups have a commonality cited by L. Allen Phelps—"a special need implies a handicap in school, whether due to disability, disadvantagement or dysfunctional school placement."

However, from the standpoint of legal, regulatory and funding provisions each of the three sub-groups is distinct. Section 504 of the Rehabilitation Act of 1973 (PL 93-112) as amended is a mandatory civil rights act that applies to all handicapped individuals of all ages and in all settings. Its provisions must be met; no funding to meet these requirements is included.

PL 94-142 for the handicapped applies the provisions of Section 504 to the schools and all persons 3 to 21 years of age; federal funds are provided but the provisions must be met whether funds are available or not. A minimum of 10% of all general vocational funds must be spent for the handicapped.

There is no mandatory or civil rights type of legislation for the disadvantaged, PL 94-142 and 93-112 do not apply. Special funds are made available for those who meet established criteria for the disadvantaged *and where* special services are provided. Twenty percent of all regular vocational funds must be spent for individuals in the group; there are additional vocational education funds provided for use in areas with high concentrations of youth unemployment and school dropouts. Subpart 3 of the Vocational Education Amendments of 1976 plus other acts provide special funds for special assistance to those whose native language is other than English.

Mainstreaming vs. Least Restrictive Environment

Two terms, often used interchangeable, have caused a great deal of concern among local teachers; they are: *mainstreaming*, and *least restrictive environment*. Some teachers have concerns that additional students with various types of special needs will be randomly assigned to an already overflowing class. This type of practice may have occurred under misuse of the concept of mainstreaming. However, undesirable practice is undesirable under any term. Such practices are neither called for not accepted under the handicapped student regulations. In fact, such a practice would result in a *non*-appropriate education and therefore be contrary to the intent and regulations of PL 94-142. Remember, the parents of the handicapped student must agree with the individual educational plan and placement of their child. If the parent is aware of such *non*-appropriate practices, he/she has the right of hearing and review. It is likely that active groups of parents will have a direct influence in correcting undesirable practices in the future. This parental involvement will give support to the teacher in his efforts, but it will also bring under review the actual practices used in the shops and laboratories.

Free Appropriate Education in Industrial Education

If selected support services are provided to the teacher and/or student, many additional students will be served by, e.g. (1) interpreters for those with severe hearing impairment, (2) large print materials and magnification devices for the visually impaired, (3) simplified written materials and the assistance of resource teachers for those with learning difficulties, (4) teacher aides or a reduced number of students assigned per class where several special needs students may be involved. A significant increase in both the number and variety of students with special needs will be successfully provided for in "regular" programs as systematic efforts are made to find and develop appropriate adaptations and through the provision and use of support services. The federal regulations for PL 94-142 clearly specify that the special needs student will participate in the regular class

wherever possible *and* that support services will be provided as necessary for the student to be successful.

The requirement of an "appropriate" education will give support to the teachers and carry some new obligations. An emerging body of evidence clearly indicates that even the most severely handicapped are capable of much greater success than previously thought when adequate resources are provided in an appropriate program. The regular class will seldom be the appropriate setting for the severely or profoundly handicapped. Modified classes, in some cases using the regular industrial education facilities, will be necessary to provide an appropriate educational program. One such type of modified class setting might resemble a large, multipurpose, general shop staffed by an instructional and assessment team. Activities in this setting might include: (1) assessment of individual performance prior to assignment to other classes, (2) instruction in several of the basic materials areas such as woodworking, metalworking, etc., (3) production and maintenance activities for the school system or others. Such a setting might be more appropriate for many students currently in regular classes as well as being the most appropriate for *some* of the special needs students. Many other types of modified programs are possible. It will be up to local personnel to design and initiate the appropriate educational programs and setting.

What is a Handicap?

The term "handicap" has often been misused or used with an inappropriate definition as it applies to individual persons. In determining whether a person has a handicap or not, the decision must be based on functional and situational bases as opposed to a medical or psychological etilogy or diagnosis. The functional and situational bases are the appropriate ones for both educational and legislative/regulatory purposes.

For example, a post-polio, wheelchair bound student is often referred to as handicapped. In the past such a student was often denied the opportunity to participate in a number of activities—such as a class in woodworking. The student's situation might be an inconvenience to him/her but present no restrictions of significance in all learning activities involved if the shop itself was adequately designed and relatively simple adaptations available. In many cases the facilities have the handicap not the student. Certainly, the same student's situation would not be considered a handicap to learning in an English or math class.

Necessity for and Risks in Identification of Special Needs Students

The legislation and regulations, including those for vocational education, dealing with special needs students carry provisions for the identification of individuals who are eligible for the services provided under the legislation. Criteria must also be established for use in the identification; and, criteria inherently lead to some type of classification or label. There is an almost universal objection to labeling or classifying of individuals for many valid reasons. However, the legislation has the purpose and intent of providing extra funds, from the limited funds available, to specific individuals whose needs are not being adequately met. The only way that has been found to assure that the funds do in fact serve those intended is through an individual identification and record keeping process that can be audited. The alternative would be to accept local and state claims at full face value; if this were done it is unlikely that only those eligible would actually receive the services due them or that the funds would be spent for the purposes intended.

The process of identification and individualized educational planning encompasses several risks and potential conflicts. The parent, and the child him/herself, may choose for reasons of their own not to participate. This is their individual right even though it may deny the child needed and available services. They might participate if the identification and labeling were not necessary.

In addition, the identification and assessment information must be made known to at least a limited number of individuals so that appropriate individual educational planning, delivery and record keeping for funding purposes can occur. Making the information known creates the risk of violating the Family Rights to Privacy Act of 1974. There is also the risk of the self-fulfilling prophecy—a lowered expectance for performance simply because of a label. Procedures must be carefully drawn and made known to all.

Under the present stage of development, there appears to be no good alternative to the current approaches. Hopefully, in the future, we can provide an appropriate education to each and every individual and then there will be no need for special funding and therefore special identification.

Persons With a Special Need are Pretty Much Like the Rest of Us

The very mention of an individual with a special need (handicap or disadvantage) all too often triggers an image of a person who is different from all others with whom we have had contacts and experiences. For the great majority of cases it just "ain't so." Persons with special needs are like all others in practically all respects. They have the same goals, desires and needs as the rest of us. In many cases no one would recognize their special need except under a special circumstance or task.

Each handicapping condition exists in all degrees—very mild to severe. Most teachers, including those in industrial education, already have experiences working with many students whose condition would make them eligible for the special supportive services under the legislation. The teachers have provided these services and they have not necessarily had, or needed, special preparation to do so. The same principles of learning apply—specific strategies may differ.

A primary principle to keep in mind as we approach the delivery of appropriate education to special needs students is that they are far more alike than different from other students and the approaches to teaching them are more alike than different. A great proportion can be appropriately served without a great amount of specialized teacher preparation.

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A MAINSTREAMING CONTINUUM FOR VOCATIONAL EDUCATION

Claire Olson Szoke
Sharon Vest

GUIDELINES FOR CLASSIFICATION OF THE HANDICAPPED

Eligibility for special education programs and services shall be determined by the presence of one or more of the following exceptional characteristics:

1. VISUAL IMPAIRMENT—The child's visual impairment is such that he cannot develop his educational potential without special services and materials.
2. HEARING IMPAIRMENT—The child's residual hearing is not sufficient to enable him to understand the spoken word and to develop language, thus causing extreme deprivation in learning and communication. Or, he exhibits a hearing loss which prevents full awareness of environmental sounds and spoken language, limited normal language acquisition and learning achievement.
3. PHYSICAL OR HEALTH IMPAIRMENT—The child exhibits a physical or health impairment, either temporary or permanent, which interferes with his learning and/or which requires adaptation of the physical plant.
4. SPEECH AND/OR LANGUAGE IMPAIRMENT—The child exhibits deviations of speech and/or language processes which are outside the range of acceptable variation within a given environment and which prevent full social or educational development.
5. LEARNING DISABILITY—The child exhibits one or more deficits in the essential learning processes of perception, conceptualization, language, memory, attention, impulse control, or motor function.
6. EDUCATIONAL HANDICAP—The child exhibits educational maladjustment related to social or cultural circumstances.
7. BEHAVIORAL DISORDER—The child exhibits an affective disorder and/or adaptive behavior which significantly interferes with his learning and/or social functioning.
8. MENTAL IMPAIRMENT—The child's intellectual development, mental capacity, adaptive behavior, and academic achievement are markedly delayed. Such mental impairment may be mild/moderate, severe, or profound.
9. MULTIPLE IMPAIRMENT—The child exhibits two or more impairments, severe either in nature or in total impact, which significantly affect his ability to benefit from the educational program.

Reprinted from *Rules and Regulations to Govern the Administration and Operation of Special Education.* 1974. Springfield, Illinois: Illinois Office of Education.

SAMPLE GUIDELINES FOR PROGRAM PLACEMENT*

TYPE OF PROGRAM	DESCRIPTION	SPECIALIZED SERVICES
Regular Vocational Program	Students receive instruction in the same classroom/laboratory as their non-handicapped peers and are expected to achieve the same basic minimum performance standards. Target population: handicapped students (typically the physically disabled) who can participate in a particular regular program with no or very minor modifications. The program prepares students for graduation followed by employment or post-school vocational training.	Specialized vocational counseling and placement services should be available to all handicapped program participants.

*These guidelines are based in part on a format developed by the State of Michigan.

TYPE OF PROGRAM	DESCRIPTION	SPECIALIZED SERVICES
Adapted Vocational Program	Students receive instruction in the same classroom/laboratory as their non-handicapped peers and are expected to achieve the same basic minimum standards. Target population: physically or mentally handicapped students who can participate in a regular vocational program if specialized services are provided. The program prepares students for graduation followed by employment or post-school vocational training.	Special equipment: specially designed work tables, hand instead of foot levers or vice versa, visual instead of audio warning signals, special safety equipment. Special instructional materials: brailled/large print materials; written instead of taped materials or vice versa; movies, filmstrips, video tapes, charts and other audio-visual materials; simplified step-by-step materials. Special supportive staff: special education resource instructors, interpreters, note-takers, direct readers, instructor aides, student aides, student volunteers. Specially trained vocational teacher and/or team teaching by vocational and special education personnel. Flexibility in scheduling: extended time to complete course, division of course into modules with flexibility as to number of modules completed. Specialized vocational counseling and placement services should be available to all handicapped program participants.

TYPE OF PROGRAM

Special Vocational Program

DESCRIPTION

Program is designed for mentally or physically handicapped persons whose disability precludes integration into a regular vocational program.

Students receive instruction in a special class setting. Instruction may be provided in a class limited to individuals with a specific primary disability (e.g., mental retardation, severe emotional disturbance, hearing impairment) or the class may serve a heterogeneous group of students with similar needs.

Training is usually of a semi-skilled nature (custodial training, nurse's aides, etc.) or introductory skills training designed to provide prerequisite skills for entry into a regular vocational education sequence.

Expected performance standards will typically differ from what is required of students in a regular program.

This type of program should provide job entry level skills and it may also provide prerequisite skills needed for entry into post-school training.

SPECIALIZED SERVICES

Services described under adapted vocational education.

Specialized curriculum design that emphasizes easily completed task components and entry-level job skills.

Courses should be taught by vocational teachers with special preparation in instructing the handicapped or by a team teaching approach utilizing both vocational and special education personnel.

Specialized vocational counseling and placement services should be available to all handicapped program participants.

TYPE OF PROGRAM	DESCRIPTION	SPECIALIZED SERVICES
Individualized Special Vocational Program	Extensive individualization within a regular classroom/laboratory setting. Program to serve handicapped persons in situations where special class placement not feasible (e.g., low prevelance of handicapping condition and/or specialized vocational needs of individual student). Also to be included under this type of program would be a flexible modular scheduling approach whereby a handicapped student participates in a regular vocational course for only a limited number of instructional modules (e.g., those modules which focus on entry-level job skills). Expected performance standards will typically differ from those required of students in a regular program. This type of program should provide job entry-level skills and it may also provide prerequisite skills needed for entry into post-school training.	Services described under special vocational program.

Reprinted from *To Serve Those Who Are Handicapped*, Revised edition, 1975.

RECRUITING HANDICAPPED STUDENTS FOR VOCATIONAL PROGRAMS

Claire Olson Szoke
Sharon Vest

An optimal goal for a local educational agency should not be a token number of physically or mentally handicapped individuals enrolled in vocational courses but rather evidence that the majority of handicapped students matriculate in one or more vocational courses as part of their total educational program. No students should be precluded from furthering a feasible vocational goal because of a physical or mental handicap.

It is the responsibility of the program coordinator to plan a recruitment program to encourage handicapped students to enroll in vocational courses and to assist the instructional staff in modifying courses where necessary so as to enhance the probability of a successful learning experience for handicapped individuals. In the case of the physically handicapped, it is shirking responsibility on the part of the vocational staff to claim that course modifications are rarely necessary since most physically handicapped students are in the academic track. Unless prevented from doing so for compelling health reasons, the physically handicapped should be enrolled in introductory vocational courses such as industrial education or home economics normally required of all junior high students. They should also be encouraged to take additional vocationally oriented courses on both the junior and senior high levels. Similarly, vocational courses offerings should be modified so as to permit the mentally retarded, multiply handicapped or emotionally disturbed students to achieve a minimal degree of competency in a variety of vocationally oriented courses in where numbers warrant it, special courses for particular handicapping conditions (e.g., mentally retarded, hearing impaired) should be available to the more **seriously** vocationally handicapped students.

PROCEDURES

1. Gather baseline data on utilization of vocational programs by handicapped students.
   A. Compare data on the actual number (by major disability categories) of handicapped students served in vocational programs (both regular and special class placement) as compared with the total handicapped population in the public schools of the district.
   B. Survey guidance, vocational and special education staff to determine probable causes (if any) of underenrollment of handicapped in vocational programs. While data gathered may very well be subjective it can provide valuable input for future vocational planning.
2. Inform guidance counselors, special education staff, students and parents of vocational course opportunities for the handicapped: special programs, supportive services and curriculum/equipment modifications that make probable success in vocational courses feasible for even the more severely handicapped should be mentioned by program staff in their recruitment efforts.

SAMPLE CHECKLIST OF POTENTIAL CAUSES FOR UNDERENROLLMENT OF HANDICAPPED IN VOCATIONAL PROGRAMS

( ) Vocational laboratories inaccessible to mobility impaired
( ) Lack of modified equipment/curriculum materials
( ) Lack of supportive staff to assist regular vocational staff
( ) Excessive class size makes additional enrollment impractical
( ) Hesitancy of vocational staff to accept handicapped enrollees
( ) No available time slot in vocational laboratories for special needs section
( ) Lack of qualified personnel to teach special needs section
( ) Students not aware of programs and do not request enrollment
( ) Students do not have friends in the regular programs
( ) Other

SAMPLE RECRUITMENT PLAN

The following recruitment methods are applicable to all instructional levels.

1. Conduct home visitations to advise students and parents of specialized vocational programs and services available.
2. Confer with interested students on an individual or small group basis.
3. Prepare a question and answer type booklet that explores many of the more common questions asked of the career education program for the handicapped. This can serve as an easy reference source for those interested in the program. The booklet should be designed with a heavy emphasis on graphics and photographs.
4. Prepare a slide presentation on the career education program for the handicapped to include specialized services, areas available for work exposure and vocational training. After some students go through the program, video tapes with student interviews should also be considered. These materials can be shown to professionals working with handicapped individuals, community leaders, parents, and handicapped students themselves.

Article taken from *To Serve Those Who Are Handicapped*, Revised edition, 1975.

VOCATIONAL ASSESSMENT FOR HANDICAPPED STUDENTS

Claire Olson Szoke
Sharon Vest

Vocational assessment is the process whereby the student gains insight into his vocational potential—his interests, his abilities and the work environment best suited for him.

While a specific time span of **concentrated** vocational assessment is recommended, assessment is inherently a continuous, long-range process in the public school. The student's abilities and vocational potential should frequently be reevaluated as he progresses through the various stages of vocational preparation. Such on-going assessment should include the following:

1. Evaluation of a student's vocational aptitudes and interests in a variety of prevocational laboratory and vocational skill courses. Exploratory mini-courses in a laboratory complex are especially relevant measures of vocational assessment since they enable a student to "sample" a number of potential occupational choices prior to enrollment in a particular vocational sequence. Grades, performance sheets, anecdotal records and instructor recommendations should be included in this evaluation report.
2. Evaluation of a student's vocational aptitudes and interests and work behavior at both on-campus and in-the-community work experience stations. Again grades, performance sheets, anecdotal records and observation and recommendations from both the student's work experience coordinator and his on-the-job supervisor should be included in this evaluation report.

It should be emphasized that evaluation is not, or should not be, an end in itself. Selection and classification are often considered the major purposes of evaluation. This is a mistake. Of greater educational import is the fact that evaluation can reveal deficiencies, problems and needs which are remediable or modifiable, and these should form the basis for special services, training, or treatment which will modify or destroy the prediction indicated by the evaluation. Moreover, while in evaluating a handicapped individual it is necessary to take note of his deficits, it is absolutely essential to pay more attention to the assets, or **potential** assets, that every individual possesses in some measure so that the program staff and the student himself can facilitate their development and use.

Vocational assessment encompasses a variety of formal and informal evaluation procedures including paper and pencil and manipulative tests, work and job samples, situational assessment in the diagnostic center workshop and the prevocational laboratory exploratory courses and reactions to regular vocational skill courses and work experience situations. It is imperative that the student himself be actively involved in the evaluation process. Like counseling which is itself an integral component of the total assessment process, it is something that one does **with** a student and not **for** him. While parents and the program staff can and should assist the student in making a realistic career choice, this is ultimately a decision that the student himself must make.

To make sense out of the mass of vocational evaluation data collected on students, there must be some systematic framework or model from which the program staff can operate so appropriate evaluation, adjustment and placement techniques can be employed. One such theoretical framework is the **Minnesota Theory of Work Adjustment** which is based on the premise that work adjustment depends on the correspondence between the individual's work personality (his abilities and needs) and the work environment (the abilities required for satisfactory work performance and the needs that can

be satisfied by the job reinforcer system).* Job stability and satisfactory work adjustment result only when there is correspondence between these two basic factors: (1) the individual **can** do the job (satisfactoriness) and (2) the individual is **happy** about the job (satisfaction).

*Borgen, F.; D. Weiss; H. Tinsley; R. Dawis and L. Lofquist. "The Measurement of Occupational Reinforcer Patterns." *Minnesota Studies in Vocational Rehabilitation*, 1968.

PROCEDURES FOR IMPLEMENTATION

1. Establish steering committee to prepare guidelines for implementation and operating procedures of diagnostic center and to explore funding possibilities (see Section 2, Activity 2.2). Membership on committee should include:
   A. Administrators: program coordinator and special education director/other administrators of cooperating school districts.
   B. Counselors: work experience/cooperative education coordinator; vocational adjustment counselor/career guidance counselor.
   C. Specialist(s) as needed in particular area(s) of exceptionality: teacher of mentally retarded, blind, deaf, orthopedically impaired; occupational therapist.
   D. Community resource person(s): rehabilitation counselor, vocational evaluator, mobility and orientation specialist from nearby university and/or rehabilitation agency serving the handicapped.
2. Determine location of physical site.
   A. General criteria for site selection:
      (1) Site affords adequate space requirements—space needed will depend on such factors as the number and type of work samples to be included in the vocational assessment plan and the number and handicapping conditions of students to be served.
      (2) Site is accessible to students with physical handicaps—ease of accessibility, improved acoustics for the hearing impaired and special lighting for the visually impaired, all must be taken into consideration.
      (3) Site is conveniently situated to serve a large enough target population base to make comprehensive facilities practical.
   B. Potential sites include:
      (1) Area vocational center—advantages are:
         (a) Can draw on a large potential target population base.
         (b) Facilitates use of psychometric tests and work samples appropriate for both handicapped and non-handicapped students.
         (c) Facilitates handicapped students engaging in a variety of hands-on vocational assessment activities.
      (2) High school designated as receiving school for handicapped students from one or more local educational agencies.
      (3) Specially equipped mobile unit to be used on itinerant basis: unit would spend a specified period of time at each site serving the handicapped; such an arrangement would be particularly applicable to a cooperative multi-district vocational assessment program for mentally and/or physically handicapped students.
3. Determine staffing requirements—suggested personnel should include:
   A. Vocational evaluator directly responsible for the administration and/or supervision of the various diagnostic procedures; one or more evaluator aides.
   NOTE: For smaller diagnostic centers the position of vocational evaluator may be filled by a work experience coordinator or special education teacher provided that the individual has training and experience in vocational assessment.
   B. Occupational therapist responsible for evaluating the effect the student's physical limitations may have on potential occupational choices.
   NOTE: For smaller diagnostic centers serving primarily the mentally retarded this requirement can be met by an occupational therapist available on a consultant basis.
   C. Additional ancillary and supportive staff (e.g., psychologist, vocational adjustment counselor, social worker, physician, interpreter, mobility and orientation specialist) as needed on a regularly scheduled and/or consultant basis.

2. Determine the number and type of basic skills tests (e.g., business arithmetic, change making, tool knowledge) to be purchased and/or developed locally. Development of these tests would be the joint responsibility of the vocational and special education staff.
3. Develop guidelines for the administration of psychometric and basic skills tests:
    - Individualize the testing program. While a basic test battery should be given to all students with a particular handicapping condition, one or more additional tests may be desirable; these should be selected on the basis of the student's expressed interests and career potential.
    - Administer easiest or less involved tests first so anxiety is minimized.
    - Test in small blocks of time rather than in concentrated time periods.
    - Administer tests individually where possible; small groups of no more than ten may be feasible for students with a similar handicapping condition.
    - Test **instructions** should be altered, varied or clarified if necessary so that the student understands the test that follows. This might include simplified verbal instructions for the mentally retarded, the use of sign language for the hearing impaired, or brailled or verbal instructions for the visually impaired.
    - Include several practice test items to acquaint the student with the testing procedures. This might be done in one or more special education classes prior to the vocational assessment period.
    - The usual test **format** should be altered or modified if necessary, e.g., use of brailled, large print, oral reading or taped version of tests to the visually impaired; or taped version of test items to the mentally retarded; administration of only certain subtests rather than the entire test in other instances.

    NOTE: When planning to administer a test orally or on tape, test construction involving lengthy multiple choice responses should be avoided. These can be confusing to the student taking the test.
    - Whenever possible, select tests that do not contain rigid time limitations as part of their essential structure.
    - In interpreting test results the evaluator needs to consider the following:

        It is necessary to know for what he is evaluating. In all of life, not just in psychological work, value is related to purpose. A personal quality, or ability, may have great value for one job and none for another.

        It is necessary to determine whether the evaluation is for the immediate future or more long range. Some qualities change, especially during childhood and youth, while other qualities remain relatively stable.

        It is often necessary to evaluate in relation to the individual's environment, past and present. We tend to predict what an individual can learn in the future largely on the basis of what he knows today. But did he have a chance to learn what we are measuring? Sometimes the lack of opportunity is obvious, as when we evaluate a child who recently came from Cuba and his failure is largely due to lack of knowledge of either English or the culture related items in our tests. In other cases, certainly in the cases of many blind individuals, the contributions or limitations of background are less obvious and must be carefully researched by the evaluator.
    - In interpreting tests to students and their parents emphasis should be placed upon positive aspects of the student's performance; vocational evaluation becomes valuable to a student only if he understands what he is doing and why it is being done. Testing should assist the student so that he is able to do the following:

        Understands himself better.

        Appreciates and has some idea how to use his own strengths.

        Appreciates and has some idea how to correct his weaknesses.

        Feels he has had fair and frank discussion in a form which helps him.

        Has some positive moves he can make. If he needs help in making these moves he should understand just what part of that help he can receive from the school and where to seek the rest.

(b) Motivational factors and maturation levels also must be taken into consideration when interpreting educational achievement results. Thus, proper educational assessment could assist in preventing a mildly retarded student from being placed in an unchallenging position and in becoming underemployed.

(c) Care must be taken in interpreting grades and standardized test results for the mentally able physically handicapped since time lost from school because of illness or the nature of the physical handicap itself may adversely affect grades, reading levels or other measures of academic achievement.

(3) Special precautions are required in use of social assessment anecdotal data (e.g., relationship of student to peers and authority figures, personal hygiene, reports on family background, teacher's comments on a student's aggression or submissiveness in the classroom). Such data may be of assistance in assessing a student's social maturity and citizenship; however, the highly subjective nature of such data may make its validity questionable. Work attitudes and behavior as observed (and objectively rated) during the vocational evaluation process or in a prevocational laboratory setting may well prove to be a more reliable indication of the individual's readiness for employment than anecdotal information compiled from other sources.

CRITERIA FOR THE SELECTION AND ADMINISTRATION OF STANDARDIZED TESTS

Psychometrics may be defined as the use of standardized tests to measure personal interests, native intelligence, eye-hand coordination, dexterity and manipulative skills. While such tests may afford insight into a student's vocational assets and liabilities, caution must be exercised in the selection of these tests as well as in the interpretation of test results. Many tests are inappropriate for mentally retarded students because of the verbal ability required and/or the norm groups used. A not dissimilar problem exists with such tests for the more severely physically handicapped. The usual measures of aptitude and ability are not always appropriate. The handicap itself may affect the results. Also since the more severely handicapped frequently have had few of the usual work related and social experiences of the able bodied child and adolescent, this factor of restriction of previous experience may make the tests inappropriate.

Nevertheless, the appropriate use of standardized tests does have its place in the total vocational assessment process. Complete reliance on subjective impressions or on the trial-and-error method of enrollment practically at random in vocational classes or a similar selection of work samples or work experience stations is inefficient at best and discouraging at worst. Properly used standardized tests, supplemented if needed by locally developed basic skills tests, are valuable tools in the evaluation process. While they may serve as guides for the elimination of certain occupations as being outside the realm of probably attainment for an individual student, they should even more importantly be used as positive indicators of potential success in a particular occupation or occupational cluster.

PROCEDURES FOR IMPLEMENTATION

1. Determine the number and type of psychometric tests to be purchased for use in the diagnostic center.
   A. Responsibility for determining the tests to be used should rest with a selection committee. Representation on this committee might include:
      - Vocational evaluator (in a small center this function may be handled by the work experience coordinator)
      - Career guidance counselor
      - Vocational adjustment counselor
      - School psychologist

      Additional input might be received from:
      - Appropriate personnel (psychologist, vocational counselor, vocational evaluator) of a nearby rehabilitation center and/or local DVR office
      - Appropriate personnel (psychologist, vocational counselor) from regional low-incidence handicap district
      - Appropriate personnel (psychologist, rehabilitation counselor) from nearby college or university.

   B. A large selection of tests is not necessary for most school-administered diagnostic centers. In general one or two tests for each of the following categories (personality, interest, aptitude, dexterity) would be adequate. Comprehensive programs serving both the mentally and physically handicapped individuals with a wide range of ability levels may need a larger potential test battery.

4. Establish guidelines for the length of the evaluation period. Considerable flexibility in the amount of time needed to complete a comprehensive vocational assessment is possible in the school setting. Suggested scheduling options include:
   A. One week (full day) evaluation sequence consisting of individual counseling and psychometric and work sample evaluation.
   B. Nine to eighteen week evaluation sequence (two-period time block) consisting of individual counseling, psychometric and work sample evaluation with the incorporation of one or more vocational course "tryouts" into the vocational assessment plan; a variation of this sequence would be to substitute for the more severely handicapped work adjustment in a prevocational laboratory setting for the vocational course "tryouts."
   NOTE: The objectives of the work adjustment phase would be twofold: (1) to teach students certain basic vocational skills; (2) to help unmotivated, frequently maladjusted vocationally handicapped students achieve positive work habits and attitudes. It is essential, however, that the workshop be physically distinct (e.g., separate room) from the diagnostic center since the less severely vocationally handicapped, especially those with a moderately disabling physical impairment, are frequently reluctant to use the services of a diagnostic center if it is considered primarily a sheltered workshop for the severely handicapped.

5. A possibility readily available to most school districts is interagency cooperation with a private or public rehabilitation center. The local educational agency would send students to this facility on a fee basis. A minimum age of sixteen is required before a student is eligible for such services. A considerable block of time should be allotted for such an assessment—usually six to eight weeks full time during the summer of twelve to sixteen weeks on a half day basis during the school year. This time period will allow for individualized work adjustment based on actual work.

Article taken from *To Serve Those Who Are Handicapped*, Revised edition, 1975.

STUDENT VOCATIONAL ASSESSMENT PLAN

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As has been mentioned previously, vocational assessment is a continuing process. One phase of this process should consist of a comprehensive, structured evaluation of a student's vocational assets and limitations. Generally, the student's sophomore year is the most suitable time to conduct such "formal" vocational assessment. The assessment should consist of psychometric and basic skills testing, work sample testing, and behavioral observations. Background information gained through school records and a personal interview with the student should be utilized.

PROCEDURES

1. Conduct an individual background interview with the student. Objectives of the interview should include:
   - to establish rapport with the student
   - to obtain specific biographical data pertaining to medical, social psychological, educational, economic, and vocational factors
   - to ascertain the student's interests and tentative career goals.

   All information and data obtained through this interview must be treated in a confidential manner.

   NOTE: If the student has some knowledge of his vocational interests and abilities and/or major occupational clusters—gained through exploratory and/or introductory vocational courses, field trips, resource speakers and occupational information classes—the validity of this interview and indeed of the entire vocational assessment process will be enhanced .
2. Prepare a clinical information folder including medical, psychological, educational and social assessment data. The following suggestions were adapted from materials prepared by Donn E. Brolin, Department of Counseling and Personnel Services, University of Missouri, Columbia.
   A. Medical data: the total medical assessment process should involve evaluating the individual's physical capacity, general health, brain damage, vision, hearing, speech, perceptual motor functioning, coordination, dexterity, and any suspected or evident anomalies precluding optimal health and physical functioning, a medical assessment should indicate whether treatment can modify or remedy some or all of the limitations and this information should be used for vocational planning. This data should be compiled from the following sources:
      (1) Current general physical examination: vision, speech and hearing tests; and diagnostic examinations or a more specific nature as required. For the physically handicapped, specialized diagnostic examinations are necessary to determine the precise nature and level of the student's disability. In the case of the mentally retarded, it is important that a comprehensive examination be given to make certain that the student's mental retardation is not made more severe by previously undetected visual, perceptual or hearing problems or indeed, even by severe malnutrition.
         (a) The general physical examinations usually required at the kindergarten, fifth and ninth grade levels should serve only as a **preliminary** screening device since the fre-

quently routine nature of these tests and the occasional hesitancy of a family physician to report certain medical conditions often make such medical reports incomplete if not actually inaccurate.

NOTE: Specialized medical examinations are required as part of the staffing procedure for all students who participate in a state-accredited special education program. It is important that a similar comprehensive examination be administered to the more marginally handicapped student, especially in those instances where the school staff (counselors, social workers, teachers) suspect the possibility of undetected or unreported medical problems which may cause a vocational handicap or make one more severe.

(b) Additional **preliminary** data can be obtained from a physical disability survey administered (on a voluntary basis) to all incoming high school students.

(c) School officials should be responsible for initiating arrangements for needed medical examinations. If the student is an eligible DVR client, these examinations can be underwritten at DVR expense.

(2) **Job** demands and physical capacities appraisal report: in the assessment of the physically handicapped it is essential to know the limitations of the disability in terms of the physical capacities of the student and in terms of the environmental conditions which should be avoided; such a report should also be routinely prepared for the mentally retarded student since as a group they frequently have both mental and physical limitations.

NOTE: The physical capacities required for a particular job classification can be obtained from the **Dictionary of Occupational Titles** and **Supplements.** (See especially "Supplemental Two"—selected characteristics of occupations by worker traits and physical strength.)

B. Psychological assessment: Psychological assessment at best invovles evaluating the student's verbal skills, performance skills, special interests and knowledge. In the past, psychological assessment has focused on intelligence quotient scores despite their insignificance in determining the individual's vocational potential, especially in the case of the mentally retarded or physically handicapped. The psychologist, however, can be of real assistance in assessing the individual's skills and in pinpointing intellectual and personality strengths and weaknesses for eventual vocational programming.

(1) Items needed to assist in vocational assessment should include intelligence, personality, and social maturity test results.

(2) Special considerations to be considered in the testing process:

(a) Testing should be on an individual rather than group basis for the more seriously handicapped.

(b) Care must be taken to select tests valid for the student's particular handicapping condition(s).

C. Educational and social assessment: Educational assessment involves evaluating the student's academic ability for job placement. Many jobs do not require a high academic level but a certain academic level is needed to care for one's everyday affairs. Social assessment involves evaluating the individual's social skills, ability to care for his personal needs and ability to use leisure time wisely.

(1) Items needed to assist in educational and social assessment should include the following:

(a) Transcript, credits and grades, to date.

(b) Standardized achievement test results.

(c) Attendance records.

(d) Work experience records and job progress reports: this should include records from school-administered work experience programs as well as available data on jobs that the student has acquired "on his own."

(2) Special considerations to be considered in interpreting educational assessment data.

(a) In assessing the potential of handicapped students it is especially important to judge each student as an individual and not as a representative of a particular category such as educable mentally retarded or hearing impaired.

NOTE: Reading levels for educable mentally retarded generally range from second to sixth grade levels; and while 60 percent of the seriously hearing impaired possess a reading level of fifth grade or less, the general range is from about 2.7 to tenth grade or higher. The differences are obviously great enough to seriously affect potential job placement.

WORK SAMPLES

An old testing adage states: "The best and most valid test is the one which most nearly approximates its criterion." Thus situations which most nearly replicate actual working conditions are especially useful. A work sample can be defined as a mock-up or facsimile of an actual job being performed in the world of work. To be valid for evaluation purposes such tasks must be presented in a controlled environment in a standardized manner. A battery of such work samples can provide valuable information on a student's ability to follow instructions and to use the basic tools required in a particular occupational area. Theoretically, if a person can adequately perform on a realistic facsimile of a specific job, his chances for success in that occupation are optimistic.

Unlike psychometric tests, work samples are more motivating, less anxiety producing, and more appropriate than most tests for persons with cultural and language difficulties; they may sample actual operations of a job and thus enable the student to gain better appreciation of the realities of work; they can be used with any student since the technique is a "personal" approach to the problem of assessment; and they provide an opportunity for self-evaluation.

A note of caution is in order however. Like psychometric testing, work samples are only a partial answer to the question of vocational assessment. Major disadvantages of such samples include the problem of validity and reliability due to the inevitable subjectiveness of the evaluation and the difficulty of establishing norms upon which to compare the individual's performance with other groups; the expense and time necessary to develop them, the difficulty in developing enough representative samples to cover all the major occupations and the question of work sample obsolescence in a rapidly changing society.

PROCEDURES

1. Determine the number and type of work samples to be purchased and/or developed locally. Criteria for selection should include budgetary considerations, the space available for work sample testing and the various handicapping conditions represented among potential evaluees. The sample selected should be graduated in difficulty from very simple structured operations to more difficult activities involving symbolic reasoning and abstract conceptualization. A range from gross motor control to fine finger dexterity should be included.

   Sources for acquisition of work samples include:

   A. Commercial vocational evaluation modules. The TOWER System (Testing Orientation and Work Evaluation in Rehabilitation), JEVS System (Jewish Employment and Vocational Service) and Singer/Graflex System have been specifically designed to evaluate the work potential of the handicapped/disadvantaged. These are standardized systems of work evaluation consisting of work samples of varying degrees of complexity representative of a considerable range of occupational areas. The considerable expense, however, of such systems makes them impractical for smaller diagnostic centers.

   B. Work samples developed by public or rehabilitation centers or similar agencies. These generally may be purchased on an individual basis. Norms based on specific handicapped populations may be available.

   C. Work samples developed by local personnel. A battery of work samples of sufficient variety to assess various manipulative and intellectual capacities can also be compiled and developed locally. These may include simple mechanical comprehension (e.g., repair of a frayed appliance cord), and tasks evaluating the ability to use basic hand tools, to conduct petty cash transactions, to price and/or inventory items typically found in a grocery store, to care for pets, or to collate and perform simple clerical tasks. Ideas and/or directions for the preparation of homemade work samples may be found in a number of evaluation manuals available from rehabilitation agencies.

2. Guidelines for the use of work samples.

   A. Develop an individualized work sample battery for each student. While certain basic samples should be administered to all students participating in the evaluation program, the major portion of an individual's time should be spent on samples selected by the student himself with the assistance when necessary of the vocational evaluator. The following procedure is recommended:

      (1) The student selects the samples he would like to work with and proceeds with them until they are completed or prove to be too difficult for him to accomplish.

      (2) If the student voluntarily quits a sample and has no other choice, the evaluator should then offer alternatives based upon the student's psychometric test scores, previously expressed interests, and psychological and medical reports indicating the nature and severi-

ty of the handicapping conditions manifested by the student.

(3) Leaving the choice of activities to the student helps to increase his occupational awareness. It enables the student to become more aware of the physical demands of the job, the educational requirements for employment, and his obligation as a worker. If the student consistently selects tasks that are totally beyond his mental or physical capacity to perform, this indicates the need for in-depth counseling sessions to help him select more appropriate career goals.

B. Develop a testing procedure with definite instructions and standards. This helps insure that variations in performance are due to variations in the student's ability and not in the testing procedure itself.

(1) Samples should be administered individually to each student and timed so that evaluation may be judged as objectively as possible; the use of evaluator aides can assist in ensuring that each student receives individual attention when needed.

(2) A standardized set of instructions should be developed for each work sample. Options should be available to the student and his evaluator however. Taped or directly read versions of written directions are recommended for the "non-reader" or the visually impaired; the use of sign language may be necessary for the hearing impaired.

C. Select methods for giving instructions which minimize reliance on the student's reading ability, unless reading skill is a major requirement of the task itself. Directions may be given in various forms: oral-written, by demonstration, audio-visual techniques, or any of the above combinations. The addition of practice exercises to aid the student in learning the task prior to being rated on a particular sample and the "test-retest" technique are procedures that also should be used.

D. Utilize standardized norms in the rating of work sample performance. In some instances norms will already have been developed and standardized, especially when using commercial systems or samples acquired from rehabilitation agencies. When norms for work samples have not been developed, students already receiving vocational training should be asked to perform a work sample. The normative data thus obtained can then be used to evaluate students who are considering this occupation or instructional course.

E. Accentuate the positive in the interpretation of work sample results. Work sample performance should not be rated on a mere pass/fail basis. If the student successfully completes a task at a certain level, he should be given a more complex test until a fairly reasonable assessment is made of his ability in one or more occupational areas. Nonsuccess at one level does not necessarily rule out his potential for training. To assist the vocational evaluator in interpreting results, work samples should be broken down into individual tasks; each task can then be explored to determine the basic skill and knowledge that it requires; behavioral factors needed to accomplish the specific task also should be noted.

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VOCATIONAL COUNSELING FOR THE HANDICAPPED

Claire Olson Szoke
Sharon Vest

Counseling should be a continuous component of the total career preparation process. A comprehensive counseling program should include vocational planning, vocational assessment, scheduling and implementation of a student's vocational plan. While the counseling staff in consultation with the coordinator of the program for the handicapped should be specifically responsible for the development and implementation of counseling services to the handicapped, the counseling role is not limited to any particular staff member. Rather, the entire career education program staff can and should be involved in the counseling process.

While the development and implementation of appropriate vocational counseling should be a primary concern of a career education program, it is essential to avoid a compartmentalization of the counseling process. Vocational problems and choices cannot be divorced from personal problems. As the Educational Policies Commission (Manpower and Education Conference) points out the manpower situation calls for people with mental and emotional health, skilled in cooperation with others and capable of adjustment to new conditions. Thus the counselor's duties should include promoting aspects of healthy emotional adjustment and general social, educational, anf vocational fulfillment. The handicapped student's attitudes and habits, indeed his whole life philosophy, are pertinent to career possibilities.

Theoretically, the handicapped student integrated into a regular public school setting is involved in the social activities of that school. This may be true of some individuals; however, there is a growing awareness that isolation of the more seriously handicapped student often results from the segregation implicit in his inclusion in the regular program. Some special planning for group participation in school activities may provide more social integration than leaving the student on his own initiative. Every effort should be made to encourage handicapped students to participate in activities such as membership in vocational youth organizations.

While personal adjustment problems should be the concern of any counseling program, they are of special import in counseling the handicapped. The student must be assisted to master those independent living skills needed to successfully function in society. For the physically handicapped these primarily concern the ability to locomote and to handle self-care needs. In the case of the mentally retarded we are concerned with a broader area of activities. Ability to locomote physically is important, but we must consider such things as ability to use public transportation, to tell time, to use the telephone, to handle money. These are small things, but if overlooked, they can be the downfall of an otherwise elaborate plan of vocational adjustment.

In counseling the mentally and physically handicapped the counselor must bear in mind that psychologically the handicapped individual is not unlike the nonhandicapped with the same basic needs, desires, hopes and ambitions. A handicap is only one aspect of an individual, and there are many other abilities and assets present. In the vocational field, the goal of counseling the handicapped is identical to the vocational counseling of other groups: the attainment of vocational or occupational adjustment, characterized by the fullest use of the potential of the individual in an occupation which is satisfying, which provides the means for economic independence and security, and which contributes to society. Work with its material, social, and psychological rewards and satisfactions, is just as important and desirable for the handicapped as for the mentally and physically able.

The greatest difference in the vocational counseling process for the handicapped is that such individual's choices are much more circumscribed because of the handicap imposed by his mental or physical limitations. The ideal goal of vocational adjustment for the handicapped is participation in an occupation in which the mental or physical disability does not constitute a handicap. This, as is indicated, is an ideal; it cannot always be achieved. Many severely handicapped persons can never compete on an equal basis with the handicapped or find an occupation in which their disabilities are not a handicap. The objective in these cases is to utilize as much of the potential of the individual as possible in the most suitable occupation which can be found. It is appropriate to mention here an additional stipulation in regard to the mentally handicapped. A major focus of the counseling process of these individuals should be to encourage the retardate to develop to the greatest extent possible the abilities and assets that he does possess. Most people can "get by" without ever needing to use all their reserve. The mentally retarded cannot maintain untapped reserves but must develop all potential capabilities if they are to compete, they must function close to the apex of their potential.

For the physically handicapped it should be noted that although their occupational choices are more limited than those of the able-bodied, they are still rather broad except for the very severely handicapped. Thus a vocational adjustment counselor should never compile lists of jobs which are suitable for those who have a particular handicap. Individuals with every kind of handicap will be found working in a wide range of jobs. Even in the case of such a handicap as blindness, one finds few occupations in which a blind person is not engaged. It is important, therefore, that each handicapped student be treated as an individual and the range of occupational opportunities be considered in terms of his specific assets and limitations, not in terms of a handicap stereotype.

While many of the physically and mentally handicapped can with proper preparation successfully compete in the competitive job market there are, as has been previously stated, definite limitations imposed by their handicapping condition. A problem that not infrequently confronts a counselor working with either the physically or mentally handicapped is that of students whose aspirations are clearly beyond their mental or physical capacities. The counselor must recognize the difficulty of using reason and argument where emotional factors are involved. In these cases the maxim that experience is the best teacher applies. Here is where the diagnostic center or vocational laboratory is useful. This usefulness is not limited to enabling the counselor to make an evaluation of the client. Of even more importance is the use of such situations as a reality experience for the student which may lead to a recognition of the unreality of his aspirations. This approach is not always effective, however, and in-depth, therapeutic counseling may also be required.

Individualized counseling culminates in a written statement of individual goals, guidelines, and progression records leading to the achievement of those career and life goals. No counselor should be disturbed if the educational prescriptions for handicapped students constantly change. Vocational assessment is working if the individual changes occupational objectives and the procedures by which those goals are to be reached.

PROCEDURES FOR IMPLEMENTATION

1. Establish overall guidelines regarding staffing policies. No matter what the staffing pattern, the following guidelines should be observed.
   A. Regardless of the number of handicapped students at a particular attendance center, certain members of the counseling staff should be specifically assigned to the handicapped. Such individuals should have the personal qualifications and the specialized training (acquired through in-service seminars or college credit courses) necessary to successfully relate to students with specific handicapping conditions.
   B. Discipline related matters should be handled by an administrator—not a counselor. No effective rapport can be established if the student views the counselor primarily as a disciplinarian.
   C. The counselor/student ratio should be small enough to permit sufficient time for individual counseling—a smaller than average case load is mandatory if counseling for the handicapped is to be effective. At present in Illinois schools the average is one counselor for every 300 students.
   D. Adequate clerical supporting staff members should be assigned to the counseling office to free counselors from routine paper shuffling/scheduling tasks and make in-depth counseling with the vocationally handicapped possible.
2. Review options for delivery of specialized counseling services.
   A. Special education districts should explore the possibility of appointing vocational adjustment counselor(s) for special needs students. These counselors are jointly funded by DVR and the

local educational agency and operate as high school vocational counselors within the schools of the local educational agency. Their specific functions as an in-school DVR counselor will include:

(1) To consider all referred students who are in the career education for the handicapped program.

(2) To determine eligibility and feasibility by applying standard minimum requirements as established by federal guidelines.

(3) To provide rehabilitation services to all eligible students according to the inter-agency agreement established for the school district being served.

B. A work experience coordinator/regular guidance counselor team approach should be used to advise the mentally handicapped in attendance centers that do not have the services of a vocational adjustment counselor. A similar arrangement should be considered for the physically handicapped in those attendance centers where there is a special cooperative occupational education program for the visually, hearing, and/or orthopedically impaired.

C. One counselor in each high school should be responsible for advising all low-incidence handicapped students (visually, hearing, orthopedically/health impaired) enrolled at that school. An alternative method would be to have one counselor designated as "resource" person for the other counselors at each high school be responsible for collecting and disseminating the specialized information required to adequately counsel the low-incidence handicapped.

D. Local school administrators should encourage the IOE to fund specialized career education counseling services to the handicapped.

(1) In some of the more populous regions of the state specialized diagnostic centers for low-incidence handicaps have been established. They should be encouraged to develop/expand counseling services for the high-school age student.

(2) In the more sparsely settled regions of the state cooperative counseling services could be established on an itinerant basis. Counselors for the mentally retarded or for the seriously emotionally disturbed would operate out of a multi-county special education district while specialized counselors for the physically handicapped (preferably one for each major disability category) would normally operate from a low incidence handicap regional center. Such counselors for the handicapped would commute to individual attendance centers for group and individual counseling on a regularly scheduled basis and in addition would serve as resource persons to the local guidance counselors. Under such an arrangement mobile units should be utilized to house guidance supplies and if need be to serve as office space for private or small group counseling sessions.

3. Prepare a flow chart to delineate the operational relationships of a vocational adjustment counselor (or other counselor serving special needs students). Vocational counselors for the handicapped should be in direct contact with all aspects of the career education program for the handicapped including academic and vocational coursework and all aspects of work experience training. They should maintain direct contact with those state and local agencies and organizations which might be of benefit or assistance to the student. They should also keep abreast of junior college and vocational training school requirements which might affect the handicapped students' post-high school training.

Article taken from *To Serve Those Who Are Handicapped*, Revised edition, 1975.

CAREER EXPLORATION PROGRAMS

Claire Olson Szoke
Sharon Vest

A summer career exploration program for physically and mentally handicapped high school students can ideally be implemented at the area vocational center. Such a program would be designated for the more mature, vocationally able handicapped students who are potential regular-term enrolees in area vocational center courses. The program should emphasize hands-on experience in a number of occupational areas. Through such a process of vocational exploration, the student would become more aware of the vocabulary and training requirements for a particular occupational field and the program staff and indeed the student himself could more realistically determine if the student has the necessary attitudes and interest level for potential success in a particular area.

A particularly valuable feature of such an exploratory program is the opportunity it affords the area vocational center guidance and instructional staff to work with a small group of handicapped students at a period when they would not be pressed for time as during the regular school year. This will enable a counselor to get to know the student and establish rapport prior to the fall when masses of "regular" student enter. Instructors will be better able to see what problems really exist and how materials, equipment, or classroom presentation geared toward non-handicapped students can be adapted or adjusted. It is sometimes difficult to overcome the misconceptions regular staff members have regarding handicapped students and the ability level of a student. Although in-service training programs where the staff is told about the various aspects of handicapping conditions are helpful, information often is irrelevant until the counselor or instructor actually works with a student with individual needs.

PROCEDURES FOR IMPLEMENTATION

1. Establish steering committee to prepare guidelines for program operation and to explore funding possibilities.
   A. Membership on committee should include:
      (1) Administrators: program coordinator, area vocational center director
      (2) Counselors: work experience/cooperative education coordinator, vocational adjustment counselor/guidance counselor, area vocational center guidance coordinator.
      (3) Instructional staff: area vocational center teacher(s), teacher(s) of mentally retarded, blind, deaf, orthopedically handicapped
2. Conduct in-service training sessions with staff at area vocational center who will be participating in summer program.
3. Prepare brochure designed to inform counselors, students and their parents of the summer program.

SUGGESTED COMPONENTS OF CAREER EXPLORATION PROGRAM AT AREA VOCATIONAL CENTER

1. Vocational assessment: psychometric and work sample evaluation (number of tests used should be kept to a minimum).

2. Individual and group career guidance sessions designed to acquaint student with potential areas of work.
   A. Based on the vocational assessment results, data should be shared with the student on an individual or small group basis to enable him to integrate the information he has been and is about to be exposed to.
   B. Various forms of media should be used to provide the students with a general idea of the vocational programs offered (e.g., a slide series to explain a printing shop, what printers do, where they go to work). Such media presentations should be developed by area vocational center staff members prior to the initiation of the summer program. Media presentations on specific occupational areas developed by other educational agencies and/or commercial publishers should also be previewed and purchased if applicable to local conditions.

3. Intensive hands-on exploration in two or more occupational areas. Such orientation should include:
   A. Orientation to laboratory which emphasizes hands-on approach.
   B. Instructional program designed to orient the students to the tools and basic procedures of a specific occupational area—two approaches are feasible:
      (1) Small group instruction—no more than four students per instructor and/or instructor aide.
      (2) Individualized programmed instruction (e.g., a self-contained vocational exploration package). Suggested sources of such programmed instructional materials include:
         (a) Staff developed vocational exploration package—such a package would replicate actual job requirements, e.g., since a machine tool processes worker makes parts for machines, the student would make a simple metal part as he progresses through the vocational exploration package in this occupational area. The package would include all necessary tools, materials, and equipment.
         (b) The use of commercial and/or agency developed multi-media vocational exploration materials.

Taken from *"To Serve Those Who Are Handicapped,"* Revised edition, 1975.

CAREER EDUCATION PROGRAMS FOR HANDICAPPED STUDENTS

Claire Olson Szoke
Sharon Vest

SAMPLE K-12 FRAMEWORK FOR CAREER EDUCATION

A career education program for the handicapped should include the following components.

1. Sequential program of orientation to the world of work (career awareness, career exploration, career orientation) that will enable student to:
   A. develop self-awareness and self-direction
   B. expand occupational awareness and aspirations
   C. develop "appropriate" attitudes about the personal and social significance of work.
2. Comprehensive program of vocational counseling including consideration of personal adjustment problems.
3. Individualized program of career preparation based on a sequential program of vocational assessment which takes into account inherent limitations, interests, aptitudes and personality factors that may influence occupational choice.
4. Sequential program of vocational competency laboratories concomitant with related academics.
5. Sequential program of work training including systematic work adjustment and job-related in-class instruction.
6. Systematic job and or advanced training placement upon completion of the program.
7. Systematic follow-up and reevaluation where necessary of program graduates.

SAMPLE STUDENT BEHAVIORAL GOALS

Upon completion of the program the physically and mentally handicapped student should have achieved the following objectives relevant to gainful employment.

Occupational:	Exploration of work opportunities and working conditions
	Adjustment to employers and fellow workers
	Familiarity with the tasks that comprise a job
	Employable skills and/or development of skills necessary to continue training at post-secondary level
Self-direction:	Efficient, productive work habits
	Poise and self-assurance
	Responsibility for work performance
	Flexibility and planning
Educational:	Recognition of the relationships between job requirements and school subjects
	Application of classroom knowledge and experiences to job performance
	Improved study habits
	Motivation to learn
Self-understanding:	Discovery and recognition of aptitudes and interests
	Identification of satisfaction to be derived from work
	Recognition of suitability, or lack of it, for an occupational field
Economic:	Become competent in money management and provide for personal economic needs

SUGGESTED COMPONENTS OF A PLAN OF CAREER EDUCATION FOR THE HANDICAPPED

Components to be considered should include:

1. Expected output in terms of the handicapped students' growth regarding vocational skills, attitudinal and behavioral characteristics necessary for successful employment.
2. Guidelines for a communication program to inform students, parents, school district personnel, prospective employers and the community at large of the objectives of the district's career education program for the handicapped.
3. Guidelines for identification of students with a physical or mental handicap that may impair their success in a regular program.

4. Guidelines regarding vocational assessment and vocational counseling for the handicapped.
5. Guidelines for developing a sequential program to serve the needs of all handicapped students. Program plan should include special needs courses for the more severely vocationally handicapped and provisions for special services and inservice staff training which are needed to effectively mainstream the handicapped in regular courses.
6. Guidelines for both systematic program evaluation and regular follow-up studies of students graduating from/dropping out of the program.
7. Guidelines for ways to foster on the local level inter-agency cooperation in developing a comprehensive career education program.

FUNDAMENTAL PRINCIPLES IN DEVELOPING A CAREER EDUCATION PROGRAM

In developing the overall program, program personnel should adhere to the principles involved in the following eight steps:

STEP ONE

The first step is to establish desired "end objectives" for participating students and the career education for the handicapped program.

STEP TWO

The second step is to obtain support from administrators and the board of control. Support must be obtained from the beginning from the board of control, the administrative hierarchy in the central office, and the building principles at all instructional levels. The program personnel must let board members and administrators know what the planned objectives and the anticipated results of the program are and must keep them informed of student progress toward attainment of the objectives.

STEP THREE

Step three is concerned with communication and rapport with school faculty and ancillary services personnel. It is important to get adequate information to teachers and other professional staff members about the purposes, content, and operation of the career education for the handicapped program; to stimulate and maintain their interest in what is being done; to enlist their cooperation; and to make them feel that they are part of the program.

STEP FOUR

The fourth step is an extension of the third. It is likewise important for the program personnel to let the teachers know how greatly faculty support is appreciated and how significant are the contributions of the teachers to the training of the participating students.

STEP FIVE

The fifth step is to enlist and maintain the support and cooperation of the school custodian, the cafeteria personnel, and other members of the non-academic staff whose duties and services are related to or invovled in the operation of work training placement or other aspects of the overall program.

STEP SIX

The sixth step is to enlist the support of parents of program enrollees. Parents should be informed of all aspects of the program and should be encouraged to make suggestions regarding changes in program operation, to reinforce at home daily living skills and prevocational skills taught by the program staff, and to inform teacher-coordinators of potential placement sites for work training or permanent employment.

STEP SEVEN

Step seven is concerned with communication and rapport with community business and civic leaders, with organizations serving the handicapped, and with handicapped adults residing in the community. As with school personnel, it is imperative to get adequate information to community residents about the purposes, content, and operation of the program and to enlist their cooperation in various aspects of program operation. An active citizen's advisory committee and involvement of community residents in school activities as resource speakers or field trip sponsors, as employers of secondary work experience/cooperative education students or as patrons of the services available through the school's prevocational laboratory are all excellent means of encouraging and maintaining community support.

STEP EIGHT

A final, but most important step, is to foster knowledge of and support for the program among handicapped students themselves. All handicapped students should be informed of career development activities and services and should be encouraged to participate in those programs components which will further their career goals.

Article taken from *To Serve Those Who Are Handicapped*, Revised edition, 1975.

COMPREHENSIVE SUPPORT SERVICES

Claire Olson Szoke
Sharon Vest

INTRODUCTION:

Vocational instruction for the handicapped must be provided at a level equal to the student's ability. The U.S. Department of Health, Education and Welfare concludes that if a handicapped student is not succeeding or cannot be expected to succeed in a regular vocational program, and his or her disability is a contributing factor to a lack of success, then this student should be given special assistance or program modification.

Special assistance and special class placement are not synonymous. The trend in education today is away from the self-contained class.

Given program modification and supplemental educational services, many handicapped individuals can be successfully taught in the same vocational class or laboratory as their non-handicapped peers. Acceptance of the handicapped individual on the part of the teacher is also essential. See Section 3 for suggestions regarding in-service training and qualifications of instructional personnel. It is the responsibility of program staff to be aware of specific limitations which may impede a student's progress in a regular vocational program and to identify those changes in curriculum, staffing patterns, instructional materials, equipment, facilities or methods which will help the handicapped individual achieve occupational success. Such modifications are also an essential component of special class programs for those students whose **vocational** handicap is so severe as to preclude regular class placement.

Perhaps the single most important element which must be present in order to integrate handicapped students into regular classrooms is some form of support help. It is also an essential component for their successful performance in specially organized vocational programs. As much as possible the support service should not be provided on the basis of handicap type but rather according to the individual needs of **each** student.

PROCEDURES FOR IMPLEMENTATION

Activities to implement such support help include:

1. Determine support services to be provided. These should include:
   A. Provide supplemental instruction (e.g., individualized assistance in the classroom or laboratory) in cooperation with the regular vocational instructor whenever necessary.
   B. Provide remedial instruction of the basic academic skills on the basis of the student's need in a particular course.

C. Provide supplemental educational services (assistance from interpreter, note-taker, direct reader, tutorial aide, bilingual specialist; specialized counseling and diagnostic services) whenever necessary.

2. Designate specific special education personnel to (a) provide support services to handicapped students and (b) give one-to-one assistance as needed to regular teachers.

   A. Determine staffing patterns: one or both of the following options are recommended:

      (1) Supplemental resource instructor: recommended for all attendance centers with twenty or more handicapped students for whom regular vocational class placement is appropriate. Such a staffing pattern is especially important for an area vocational center that is in the process of implementing a policy of mainstreaming handicapped students.

         (a) The position is an itinerant one, that is, the individual will visit classrooms/laboratories as needed to assist handicapped students (of a specific disability or on a cross-categorical basis) enrolled in regular programs. Some activities such as remedial instruction in basic education skills may need to be conducted in a resource room apart from the vocational laboratory.

         (b) The individual should have specialized training in the area(s) of exceptionality to be served. Knowledge of sign language and of non-visual instructional techniques are essential qualifications for specialists serving the hearing and the visually impaired. For supplemental resource instructors to be effective they should also have some specialized training in vocational education or work experience in one or more occupational areas.

         (c) If the itinerant resource instructor can blend with the regular faculty the student who is receiving supplemental resource help will not as likely feel stigmatized.

      (2) Special education personnel (e.g., classroom teachers, work experience teacher-coordinators) should be granted released time to serve as "ombudsmen" between handicapped students and regular vocational instructors. Scheduling options for these individuals include:

         (a) Elementary/junior high level: one or more special education teachers for the mentally or physically handicapped can assume "ombudsman" responsibilities provided that they be released from classroom duties for a minimum of one period a day, **not** including their planning period.

         (b) High school: "ombudsman" responsibilities typically should be assigned to work experience coordinators for the physically and/or mentally handicapped. For such specialists to have adequate time for their ombudsman role they should be responsible for work experience coordination duties for no more than twenty students and preferrably have no more than one regularly assigned class.

   B. Prepare guidelines regarding responsibilities of the supplemental resource instructor or special education "ombudsman."

3. Designate a specific person responsible for coordinating the activities of those persons who are providing supplemental educational services to the handicapped. The term refers to services which (a) are provided in addition to those educational services provided for regular students and (b) are correlated with the vocational program. In a large administrative unit it may be feasible to hire a person to coordinate these activities; for smaller units this responsibility can be assumed by the program coordinator or his designee. Coordination responsibilities include:

   A. Supervise audio-visual technicians in the preparation of special media materials. Especially for smaller school districts, specialized personnel operating out of multi-county special education districts or low incidence handicap regional districts should be available to prepare materials requested by local teachers. Slides, movies, and video tapes are expensive and it should be possible to develop materials applicable to a number of different locales. Local initiative is

important—suggestions from local school districts should prove to be effective in initiating cooperative efforts.

B. Formulate procedures to coordinate all supplemental educational services. In general these will be provided by supportive services staff (interpreters, note-takers, direct readers, tutorial aides) or ancillary personnel (professionals and technicians whose expertise is in the areas of diagnosis, counseling, health services, curriculum development, and job placement and follow-up).

(1) Prepare and distribute to key school personnel (program coordinator, vocational adjustment/guidance counselors, vocational director, special education director, heads of vocational departments) a brochure of supportive and ancillary services available—such a listing should include the services of both paid and volunteer personnel; information on whom to contact to arrange for these services also should be noted. The range of services needed by a local educational agency will depend on the number of students served and the nature and severity of their handicaps.

(2) Assist instructional and counseling staff in scheduling services as necessary.

C. Coordinate activities of school-based supportive and ancillary services personnel with various community agencies that provide special materials and equipment for the handicapped.

(1) Prepare a listing of community agencies serving the handicapped and distribute to key school personnel at all instructional levels. (See Section 2, Activity 2.2)

(2) Enlist support of community in regard to providing (on a voluntary or paid basis) the following servies:

- direct readers
- interpreters (to be used on field trips, job interviews, job orientation sessions
- chaperons for field trips
- taping instructional material
- tutoring handicapped students on a one-to-one basis (local college students are one source for such tutorial aides.

D. Organize student volunteer services. The student council can be influential in organizing such services, although the initiative must generally come from a program staff member.

(1) Services to be provided might include:

- note-taker
- volunteer reader
- peer tutor
- student aide (for classes in which student is not currently enrolled)

(2) Handicapped individuals should be encouraged to serve as a student volunteer to aid fellow classmates (e.g., an orthopedically impaired student may tutor a classmate or read to a blind student, a mentally retarded individual may serve as a guide to a physically handicapped peer).

(3) Utilize student teams (e.g., pairing special needs student with one or more non-handicapped peers). Not only does such a system assist in the successful integration of the handicapped into the regular vocational class, but it also serves to foster social intermingling on a one-to-one basis between handicapped and non-handicapped students. Moreover, if all the students in the class frequently work in teams, the handicapped student is not singled out for "special" services. Options in the organization of such teams include:

(a) Student in class who has completed an instructional unit assists a small group of students (handicapped and non-handicapped) who are just beginning this unit.

(b) In a program where students of different levels are in the same vocational laboratory, as may frequently be the case in area vocational centers, an advanced non-handicapped student may be assigned to aid a handicapped beginner. In some instances the reverse situation may also be feasible and a handicapped individual can be specifically assigned to assist a non-handicapped classmate.
A note of caution is advisable here. The non-handicapped student must not permit himself to be exploited. The student with the physical or mental handicap must be encouraged to perform as his ability permits.

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INDIVIDUALIZED INSTRUCTION FOR SPECIAL NEEDS STUDENTS

Claire Olson Szoke
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Individualized instruction is a term used to identify different methods of instruction that attempt to gear instruction to the individual student, and allow them to work at their own pace. Individualized instruction methods usually contain some or all of the following characteristics, depending on the scope of the program.

Task Analysis

Task analysis determines what competencies are to be taught. Task analysis involves the breakdown of a process into its component parts. In curriculum development the steps involved should include:

1) List the major tasks involved in the job for which the student is being trained. Key questions to be considered are:
   - What are the major tasks included in the job?
   - How frequently must each task be performed?
   - What is the relative importance of each task?
   - What is the learning difficulty of each task?
   - Which tasks are mandatory entry-level requirements?
2) Analyze the tasks listed, e.g., what are the specific kinds of knowledge, skill and attitudes required for the performance of each of the tasks involved in the job. Key questions to be considered are:
   - What are the steps involved in the task?
   - In what sequence must these steps be taken?
   - Which of the steps are critical, "make-or-break" steps?
   - Which of the steps involve safety precautions?
   - Which of the steps involve language or computation skills?

Competency or Performance-Based Objectives

The objectives of the learning program are outlined in measurable behavioral terms, so that students and instructors know what's expected of them, can evaluate progress, and can negotiate around concrete goals for instruction **(these goals should be written).** Selection of objectives for a course of study should be based directly on the job task which makes instruction necessary. Goals for both skill preparation and occupational information/job-related instruction courses can be expressed in concrete behavioral terms. There should be a terminal objective for each of the major tasks included in the curriculum. If the task is complex and is made up of a series of sub-tasks, a performance objective is needed for each of these sub-tasks. The main elements of a performance objective include:

1. **Statement of action:** This is a statement of what the student must do to accomplish a task. What he does must be **observable and measurable.**
   The student will identify the parts of a carburetor.
2. **Statement of conditions:** This is an additional statement of the physical conditions under which the student must complete the task. Statements of conditions indicate to the student the aids he will be provided or denied when performing a specified task.
   - The student will adjust a carburetor with the aid of a screwdriver.
   - Given the sales tax rate, the student will compute the sales tax on the purchase of a $40 carpet.
3. **Statement of minimum acceptable performance:** (Often called a "Statement of criteria.") This part of a performance objective indicates **how well** and/or **how fast** the student must perform the task.
   - The student will type 30 words per minute for a period of one minute with no more than 5 errors.
   - Using a standard lug-wrench, the student will change a car wheel within three minutes.
   - Given a list of 30 business terms, the student will identify 25 correctly.
   - Using a hand whip, beat a quart of whipping cream in a two-quart bowl into whipped cream. Whip it until it peaks.

Every performance objective must contain a statement of action, or a statement of what the student must do to demonstrate that he has learned something. However, a performance objective will not always require a statement of conditions or minimum standard of performance.

Action	Conditions	Minimum Acceptable Performance
The student will identify the parts of a carburetor.		
The student will compute depreciation	Using the straight line method	

Using performance objectives will help the teacher:

* Identify the kind of action which makes it clear the student has learned the desired knowledge or skill.
* Identify the kinds of learning activities which will best help a student achieve a performance objective.
* Identify the conditions necessary for a student to obtain the stated objectives.
* Construct valid testing procedures to evaluate the extent to which the objectives have been achieved by the student.

Performance objectives are valuable to the student because:

* They let him know exactly what he is supposed to learn.
* They let the student know what he must do to demonstrate that he has learned. (Thus he knows what he will be tested on before he ever sees the test).

Students Learn at Their Own Speed

A flexible system of classroom management is necessary so that students can, as much as possible, work at their own speed. Materials are developed so that students can work individually and in cooperation with a partner or a small group of classmates. Under this system of classroom management students can work with the teacher on a more individualized basis.

Different Learning Styles and Media Approaches

Learning takes place in a variety of ways: audio, visual, and hands-on experiences can all be vehicles for learning and teaching. A combination of different media approaches can provide an opportunity for students to experience learning from different angles—some more suitable than others to their learning styles. A balanced variety of media can make learning more interesting and easier. Major factors in designing learning activities are:

* the requirements of the job, as reflected in the performance objectives.
* the needs, interests, and limitations of students, as a group and as individuals.

All of the materials must teach directly to the performance objective.

Example: One learning activity for the performance objective "clean a typewriter" might include a filmstrip demonstration with a cassette narration, either commercially prepared or made by the teacher.

General guidelines for selection of learning activities:

* Many students learn best by seeing and hearing. Include in your learning activities audio-visual alternatives and reinforcement methods of learning the skill—film, filmstrip, sound/slide, cassette, flip pic, videotape, etc. Many teachers use a combination of commercially prepared audio-visual material, and multimedia instructional materials that they create themselves.
* Include group work as well as individual work. Many students work best in groups, and all will feel isolated if they do not have some contact with others.
* Students should be actively involved in learning. This goal can be achieved by learning experiences such as these:
  - Demonstration/Performance
  - Simulation Exercises
  - Role-playing and Sociodrama
  - Discussion
  - Committees
  - Problem Situations
  - Student Reports

The traditional lecture method is least effective. Most students are usually not actively involved in learning while being lectured to.

Teacher Role

The role of a teacher changes somewhat in an individualized instruction method. The teacher becomes a planner of goals and activities with students, and a coordinator of these activities. **He probes for interests and goals, and stresses cooperation as opposed to competition.** He or she must also serve as a resource person and developer of materials for the instruction and as an evaluator to ensure quality classroom instruction.

Student Role

The responsibility for learning is more heavily placed on students under an individualized instruction method. He or she must be more self-reliant, since the emphasis will be on learning and exploration. Students work with both the teacher and other students and use them as resource people.

Evaluation

Individualized instruction implies **individual evaluation** as opposed to group evaluation. Although objectives may be set for the group as a whole, the attainment of these objectives must be measured and recorded on an individual basis in relation to set goals or criteria. The use of individualized learning activity packages allows students to know at the **beginning** of a unit of instruction exactly what is required.

Achievement can be measured and reported by regular teacher evaluation; student-teacher cooperative evaluation by Gantt chart depiction; segmented or task completion at regular or irregular intervals; regular testing results; individual assessment of own progress (e.g., "This month I have lurned to spell automobile.")

Testing should be criterion-based. In a vocational laboratory a criterion exam should have two parts—a written or oral part to measure the amount of theory or abstract knowledge a student has retained; and a performance part to measure if the student is competent in the new "hands-on" skill. In either case the criteria for passing should be related to competencies needed to perform the task in the working world. It should not be based on average scores from previous students who have taken the same test, unless the test has been validated in industry.

At the end of the instruction the student should be job-ready and job-qualified. This is an important point in vocational education for students with special needs. The instruction starts where the student is but the end result must be success on the job. A "watered-down curriculum" may be worse than no instruction at all if the student thinks he or she is job-qualified and then finds on the job that this is not true.

Eliminating Some Misconceptions About Individualized Instruction

1. Individualized instruction is not the same thing as teaching students individually.
   Nearly all teachers who instruct by the lockstep group method help their students individually. However, all the students are working on the same thing at the same time. By contrast, in an individualized classroom, everyone works at his or her own speed, and each gets individual help as he needs it. Individualized instruction allows for greater flexibility than in the "typical" classroom. One approach that works well in a classroom serving students with a wide range of abilities is the use of modular scheduling (e.g., a course is broken down in to a series of modules which in turn are sub-divided into specific tasks to be performed). **It is not expected that all students complete all of the modules.** The more vocationally handicapped student might concentrate mainly on those skills prerequisite to an entry level job (e.g., sanding and taping in autobody or only certain routines and machines in an office practice course).
2. Individualized instruction is not simply the use of programmed materials.
   Programmed materials are constructed to be used individually and sometimes are used in an individualized curriculum. But every truly individualized curriculum provides for different student learning styles and includes **several** methods of teaching each skill. Knowledge is offered through seeing and hearing as well as reading, through group interaction as well as solitary work. One danger inherent in relying heavily on programmed packages is not by the teacher, but by the organization of the programmed materials.
3. Individualized instruction does not supplant the teacher.
   However, the **role** of the teacher changes somewhat. The teacher becomes a planner, a coordinator, a resource person—in short, a learning manager. The amount of teacher contact with each student is usually greater, and the relationship closer. Individualizing instruction does not free the teacher from the responsibility to provide direction and leadership in the classroom.
4. Individualized instruction does not isolate the student.
   He gets attention from the teacher, he may be paired with another student "partner," in small group learning situations, or he may participate in full class activities. The amount of time he spends working alone depends on his preference.
5. Individualized instruction does not mean the teacher must be "everywhere at one."
   The most important characteristic of a well designed and well written set of learning packages is that **most** of the students will be able to learn **most** of the material with little or no help from the teacher. At times the teacher can be assigned instructor aides. In all situations, **student aides can help and students can work in teams or small groups.** Experience shows that a teacher with individualized curriculum can accommodate more students rather than fewer students.
6. Individualized instruction is not tied to team teaching or flexible scheduling.
   Individualized instruction can be, and often is, done in some very conventional settings. The flexibility exists in the freedom of the student to learn what is most important to him, at his own speed, and in the way he can learn best.

Advantages of Individualized Instruction

For the student:

***It is self-paced;** the student progresses at the rate best suited to his learning. He is neither rushed nor held back.

***Placement is by performance;** the student is given credit for what he already knows, so that he always starts learning something new. The challenge is always present.

*The student knows **how far he has come** and **where he is going** in the course. He has the objectives of the course in writing.

***The student learns through a variety of media,** by the methods that suit him best.

***The student is evaluated in terms of his own performance.** He is not forced to compete with his classmates. He is not graded by comparison with their performance.

For the teacher:

*The teacher can **spend more time** with the individual student.

*Teaching is easier in that instruction is **focused toward specific goals;** therefore, the teacher can better organize his time and effort.

*Most teachers **derive deep satisfaction** from the progress students make with individualized instruction.

This position paper has been adapted from materials developed by AMIDS (Area Manpower Institute for Development of Staff), in particular the AMIDS Center #2, AMIDS, Center #1, and AMIDS Center #4.

Article taken from *To Serve Those Who Are Handicapped,* Revised Edition, 1975.

MODIFICATION OF FACILITIES AND EQUIPMENT

Claire Olson Szoke
Sharon Vest

A physical facility can be the barrier which prevents some students from participating in a vocational education program. Many handicapped students have multiple disabilities—a mildly retarded youngster may also have one or more physical limitations. It is essential, therefore, that all vocational facilities should be designed and equipped to accommodate the physically and mentally handicapped. In the design and location of classroom and vocational laboratory facilities, the guidelines established by the Illinois Office of Education should be observed. Examples of facility modification include:

- special lighting for the visually impaired
- improved acoustics for the hearing impaired
- ramps, wider doors and lower fountains for persons in wheelchairs
- physical adaptions in restrooms and lunchrooms for handicapped persons
- modifications in desks, worktables, and major equipment

Special equipment for the handicapped often should be fabricated to each individual's needs. The general information about equipment and facility adjustment which follows can often be incorporated or adapted in all instances where applicable. A very real warning about overcoddling handicapped students with fancy gadgetry was expressed by Wilson, 1964:

> Every effort should be made to place handicapped children in the regular classroom where they will have the opportunity to grow up in the world of the non-handicapped in which they will spend the majority of their lives . . . In attempting to teach this goal, it is important to remember it is not the physical facilities or equipment that make a good program. In fact, there is a real danger that special provisions for children may be made too specialized and that student may become so surrounded with gadgetry designed to make things easier for them that they never learn to cope with the world outside the classroom walls. *(Educational Equipment)*

There are four general types of equipment that can be used in a school with disabled children:

1. Standard unmodified school equipment
2. Standard equipment that has been modified
3. Specially designed, commercially available equipment
4. Specially adapted equipment, "made to order" for students with special needs.

Standard unmodified equipment is available from manufacturers of educational equipment. Some of this equipment may be used by both disabled and non-disabled students. It is usually less expensive than any of the three other types. Because of its greater utility and lower cost, this kind of equipment should be considered first and used whenever feasible.

Modified standard equipment refers to regular equipment which has been changed in some way so that its use by disabled persons is facilitated. The modification is usually made at the school, not at the manufacturer. Modifications are generally easily done and relatively inexpensive.

Several manufacturers of educational equipment provide items that are specially designed for use by disabled students. Much of this is for general classroom use, but some may be of particular value for vocationally oriented courses. Information regarding such equipment can be obtained from such sources as district special education director, local vocational rehabilitation specialists, or consultants from the Illinois Office of Education (Dept. of Exceptional Children). Specially designed or adapted "one of a kind" equipment designed to meet the needs of a particular student is usually made at the school and its cost can vary greatly.

Generally school equipment is needed that is non-limiting in the sense that it presents no barriers and/or removes any barriers which might be encountered by a student with a physical disability. Conventional items of educational equipment which are designed to be non-limiting to students with physical disabilities can have educational benefits for non-disabled students using the equipment as well. For example, a classroom with rows of fixed desks presents physical barriers as well as safety hazards to students confined to wheelchairs, litters, or using crutches. If easily accessible, adjustable tables replace the immovable seating equipment, the additional leg-room, larger work areas and more flexible seating arrnagements gained will benefit all

students. Equipment which can serve all students with little or no modification is most desirable. All school equipment should be evaluated in terms of its possible use by disabled persons in addition to such factors as cost, appearance, durability, et cetera. An additional evaluative dimension for the inclusion of a piece of equipment in the school is the degree to which mobility, dexterity, or strength are **necessary** for its use.

Both individualization and flexibility of modified equipment must always be considered, Schoenbohm states:

> While there is on the market today a great deal of commercially manufactured special equipment for crippled children and adults . . . it is extremely important that all equipment purchases be related to the need it is intended to fulfill. The individual needs of individual crippled children vary so much that many items of equipment will need to be specifically constructed to meet their needs . . . Equipment, further, should be judged by its functional value rather than by appearance or expense . . . Despite the fact that elaborate and expensive equipment might look nice in a department, its simplicity and functionality will be the true test of its value and effectiveness. *(Educational Equipment)*

Three pieces of standard audio-visual equipment are particularly useful in classes serving the mobility impaired. The overhead projector is recommended since the image projected is often larger than that which would be visible on a blackboard. Students can also prepare their work on materials that can be projected by this device so that an alternative to chalkboard work is provided. Similarly, a video tape closed circuit television set up with large screen monitors allows for easy viewing by students throughout the room. Another feature of its use is that it allows for the projection and storage of video tapes for subsequent use by the teacher. For demonstrations, an overhead pivoting mirror installed in a vertical position above the demonstration table, allows the students to view demonstrations performed at the teacher's work station from their seats, without crowding about the table. Such a set up would also facilitate viewing of demonstrations by non-disabled students and help in the efficient use of class time since no time need be lost in leaving and returning to seats.

PROCEDURES FOR IMPLEMENTATION

1. Establish a structural barriers committee to coordinate the efforts of the program staff regarding required modifications. Representation on the committee should include:
   - program coordinator
   - vocational director
   - vocational teacher
   - teacher(s) for appropriate areas of exceptionality
   - personnel from rehabilitation agency or other organizations serving the handicapped

2. Compile data on recommended architectural standards, equipment modifications and special devices to accommodate the handicapped.
   A. Request suggestions from special education and vocational education staff
   B. Compile resource list and contact as needed:
      - publications
      - local and state level DVR
      - consultants from DAVTE, IOE
      - rehabilitation agencies/sheltered workshops
      - educational agencies offering special vocational programs for the physically handicapped (contact Special Programs Unit of DAVTE for an up-to-date listing)
      - organizations for the handicapped (e.g., state and local branches of Association for Blind, Association for Deaf, Council on Exceptional Children, United Cerebral Palsy Association)

   References:
   Architectural Planning for the Physically Handicapped. Checklist of publications. National Easter Seal Society for Crippled Children and Adults.
   Efficient and Adequate Standards for the Construction of Schools. Circular Series A, No. 156. Illinois Office of Education.

3. Conduct a survey of vocational laboratories to determine to what extent existing facilities and major equipment impose limitations for the handicapped. Facility and equipment modifications are permitted under DAVTE regulations (10% handicapped funds) if school authorities can substantiate that this will foster the vocational education of the handicapped. A report on the results of the survey should include:
   - statistical data on the potential enrollment of physically handicapped students in each attendance center housing vocational laboratories
   - precise delineation of existing structural and equipment barriers and suggestions (and estimated costs) for their removal

   The structural barriers committee should utilize this data to recommend priorities in regard to modifications.

4. Prepare and distribute to vocational education staff an informational bulletin regarding selection and modification of equipment for the handicapped. This information is essential if program staff are to realistically plan for the placement of handicapped students in vocational laboratory courses. In many instances costly major equipment modifications will not be required—what is essential is the ingenuity of a knowledgeable instructor. Vocational teachers should use as needed the services of specialists from state agencies, rehabilitation centers and special educational programs for the physically handicapped regarding specific suggestions for equipment modification.

SUGGESTED EQUIPMENT MODIFICATIONS FOR THE PHYSICALLY HANDICAPPED

Hearing Impaired

For the hearing impaired student much of the equipment used in vocational skill preparation courses can be the same as that used by "regular" students. The following modifications are recommended:

- A red light installed next to the switch indicating when the machine is in operation.
- Bells connected to a light that turns on when the bell rings. This is applicable on typewriters, class bells, timers, fire alarms, emergency stop procedures.

Visually Impaired

Much of the equipment needed by visually impaired students in vocational skill preparation classes can be the same as that used by their seeing peers. Whether the equipment is regular or modified, an orderly workshop and **individualized** instruction regarding the use of each piece of equipment is essential in working with the blind and partially seeing. The following modifications in equipment are recommended:

- Control dials and switches which are easily accessible; special control dials with the actual rather than visual markings—for this one can use brailled tape or raised marks (e.g., dots of Elmer's glue).
- Auditory rather than visual warning signals.
- Guard plates (where feasible) on power equipment.
- Specially designed communication and measuring tools and other devices are available and should be considered for the visually impaired student on an individual basis. These include: Braille shorthand machines and stenotype devices, adapted calculators, equipment for preparing raised line drawings, light detectors that emit a sound stimulus, audible multimeter, audible electronic level, brailled micrometers, calipers and rulers, sound monitors for indicator lamps, automatic fluid measuring devices for darkroom work, Braille bevel protractors, vernier rules, transformer testers, and feed indicators for lathes.

For more information on these and other devices, consult the following: American Foundation for the Blind. *Aides and Appliances*, most recent edition. 15 West 16th Street, New York, New York 10011. American Foundation for the Blind. Several articles on vocational aids in *International Congress on Technology and Blindness, Proceedings*, 1962, 1963.

Orthopedically Impaired

The following modifications in laboratory facilities and equipment are recommended:

Facilities:

- absence of obstructions, ample space between aisles and around power equipment, storage areas for students in wheelchairs
- non-skid floor to facilitate handling of crutches and wheelchairs
- alterations in height of work benches, storage cabinets, etc.—typically these have to be lowered and recessed to accommodate students in wheelchairs
- simple handles rather than knobs on cabinets for amputees with prostheses
- mobile demonstration table that can be moved from student to student
- sinks and water controls should be accessible to students in wheelchairs—batwing faucets that require minimal manual dexterity for manipulation and gooseneck spigots that allow for greater ease of operation by providing ample room between the sink and the spigot are especially helpful for those students with upper extremity orthopedic involvement

Equipment:

- guard plates (where feasible) on power equipment; machine switches on power equipment may need to be moved for easier accessibility
- semi-stationary equipment should be put on variable height bases
- regular equipment may need to be adpated, e.g., hand controls added to machines usually operated by foot controls
- special light weight hand tools or tools with extra large handles for easy use by students with weak hands

The following minor adaptions which are desirable for orthopedically impaired home economics students are representative of quick, low-cost modifications which might be made or purchased for handicapped students in other vocational programs:

- Cutting board mounted on suction cups so that students with only one hand or with minimal strength would not have to be concerned with holding the board steady; peeling screw to hold vegetables to be peeled
- electric scissors for students with minimal motor control
- grocer's hook for reaching small items without the student's getting out of wheelchair
- electric mixer with a lever control instead of the dial-type speed control (also useful for the visually impaired)
- place a lightweight sewing machine on a tray fitted over the arms of a wheelchair

Modified Typing Equipment for the Physically Disabled and Hearing Impaired

- Use of electric typewriters require 1/10th to 1/15th the finger pressure needed to operate a normal typewriter and reduce energy expenditure by 95%. Sometimes adjustment of touch control is all that is needed to give some handicapped students control of the keys.
- A Dvorak typewriter can be obtained with a rearranged alphabet on the keyboard (for one-handed typing)
- Typing sticks can be attached to holders that fit in the hands of those capable of using their hands but not their fingers
- Place a box in front of the typewriter, so that the cerebral palsied student may rest hands on box in order to better control his hands while typing
- An arm rest can be purchased for an IBM Selectric for about $15. The typewriter is placed into the arm rest frame which gives the cerebral palsied student a wood-finished arm rest in front of the typewriter and at the same height of the typewriter
- A plate for the cerebral palsied student can be purchased for about $5, and can be attached to the IBM Selectric typewriter. This plate is easily secured to the typewriter by drilling two holes on the frame of the typewriter and screwing the plate in place. The student then rests his fingers on the plate and slides up to the hole of the key he needs to depress.
- The Remington Electric typewriter can be purchased with a permanent plate over the keys to help the cerebral palsied student to have better control of the keyboard
- A light can be installed for about $30 on an electric typewriter that will give the marginal signal to a hearing-impaired student

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PROCEDURES FOR DEVELOPING PLACEMENT SERVICES FOR THE HANDICAPPED

Claire Olson Szoke
Sharon Vest

Placement is a terminal goal of vocational education. In the words of one educational specialist for the visually impaired:

> There is one purpose for vocational education and that is turning out graduates who can perform effectively on a job. You can have the most elaborate curriculum, the most dynamic instructor and go through all the motions of teaching, but if the students can't perform on the job, then the program is a failure. (D. Gary Coker. Speech given at the Association for Education of the Visually Handicapped 1972 Conference.)

Nor should placement be left to chance. It is the school's responsibility to provide comprehensive educational and job placement services for all handicapped students. Such services should be designed:

- to instruct students in job-seeking skills
- to actively help students find employment and/or be accepted in an appropriate post-secondary program
- to coordinate placement activities of school staff and community agencies

GUIDELINES FOR THE ESTABLISHMENT OF PLACEMENT SERVICES FOR THE HANDICAPPED

1. Appoint a placement coordinator for the handicapped (full or part-time position) to actively recruit full and part-time employment positions and to handle the administrative details of employment and post-secondary educational placement. In some local educational agencies, placement of the handicapped may be handled by the work experience or cooperative education coordinator(s) or the vocational adjustment counselor(s). This is an acceptable alternative to a specifically designed placement coordinator provided that the following conditions are met:
   - the individual(s) involved have released time for their placement duties
   - one individual is responsible for coordinating the placement activities
   - sufficient clerical help is available to handle routine paperwork duties

   NOTE: Such clerical assistance is also essential for a specially designated placement coordinator.

2. Develop a job description for the placement coordinator for the handicapped.

3. Coordinate the specialized placement services for the handicapped with the district's placement services for all students. Joint meetings attended by the vocational director, the program coordinator, and all members of the placement staff should be regularly scheduled to facilitate such coordination efforts. Additional staff members (e.g., work experience and cooperative education coordinators, vocational counselor, vocational adjustment counselor) should be invited to participate whenever their input is deemed necessary.

4. Develop guidelines regarding summer placement possibilities. Input from the instructional staff, work experience or cooperative education coordinators, advisory committee, and parents should be used in developing potential listings.

   A. Miscellaneous activities for both junior high and high school students might include: lawn mowing and gardening chores, house cleaning, ironing, simple painting jobs, clearing trash from a basement or garage, walking and/or grooming a dog or other pet.

   B. A little ingenuity can match older handicapped students with part-time seasonal jobs in agriculture (e.g., corn detassling for the educable mentally retarded) and in routine entry-level positions (clerical, maintenance, food service, stockroom) for non-profit organizations and local businesses.

   C. Students should be encouraged to accept volunteer positions in non-profit agencies if no paid employment is available. It will give them job experience which can facilitate their subsequently finding paid employment.

   D. Students should be assisted in applying for on-the-job training programs available through the local Comprehensive Employment Training Act.

5. Develop guidelines regarding services to be provided by the clearinghouse. The suggestions for placement procedures in this and the subsequent activity are based in part on a publication by James B. Maguire and Walter Williams, *Workshop for Occupational and Career Education Personnel.*

   A. Develop procedures to facilitate matching qualified students with available jobs.

      (1) Inform community residents and businessmen of job clearinghouse. Utilize letters to Chamber of Commerce and civic/fraternal organizations, news releases to local press, public service spot announcements on radio-television, and informal "word-of-mouth" contacts available through parent teacher organizations and vocational/special education advisory committees.

      (2) Assign a secretary (in placement coordinator's or vocational adjustment counselor's office) to handle all incoming calls.

      (3) Distribute job notices to appropriate school staff (e.g., counselors designated to serve the handicapped, work experience/cooperative education coordinators, special education teachers). These individuals would be responsible for informing students of job openings and assisting (if necessary) in the job application process.

      (4) Encourage counselors, work experience/cooperative education coordinators and instructional staff to develop their own potential job leads. Such leads should be shared with all program staff.

      (5) Compile (on 3 x 5 cards to be posted on bulletin board in classroom and/or counselor's office) a listing of "typical" summer jobs available in the community. 101 SUMMER JOBS, by Roberta Ashley, (Grosset and Dunlap, Inc., 1970) is a useful reference in compiling this list. To insure that students read the bulletin board, place a sign on the board that challenges them to find a kind of summer job that is not listed, and if they do, the instructor/counselor will buy them a coke.

   B. Assist students (especially the junior high school youngster and the mobility impaired) in solving job-related transportation problems.

6. Establish a clearinghouse of full time job opportunities. Similar procedures to those developed for summer employment should be used.

7. Establish procedures to match the student with a job where his mental limitations and/or physical handicap does not constitute a **vocational** handicap. The use of the deaf as computer

programmers is one such example. To quote one satisfied employer:

> "The detailed work inherent in coding computer programs and in seeking out errors in program logic required the programmer's intense concentration. Loss of hearing greatly diminishes the numerous distractions of most working environments."

A. Become informed of the many employment possibilities for the handicapped. While stereotyping should be avoided (e.g., the notion that the blind can only become piano tuners or the deaf printers), it is important that all program staff have specific knowledge regarding occupations in which the handicapped have been successfully employed. New and expanding careers (e.g., data processing) offer employment possibilities for the handicapped that should be explored. Sources of information regarding employment possibilities for the handicapped include:

(1) Resource library, e.g., professional journals, bulletins and pamphlets from agencies serving the handicapped.

(2) Personnel from various organizations specializing in serving the handicapped, e.g., rehabilitation counselors at nearby colleges and universities, counselors at local DVR offices and rehabilitation centers, members of local/state level Governor's Commission on Employment of the Handicapped.

(3) Follow-up data on former students compiled by local educational agencies (high schools, area vocational centers, junior colleges and four-year post-secondary institutions) both in the immediate region and on a statewide or even national basis will provide information on specific employers hiring the handicapped as well as data on occupational areas in which the handicapped have been successfully employed.

B. Conduct an individual interview with each student looking for full-time employment upon graduation. Such interviews are the responsibility of the placement coordinator. At the time of the interview each student should complete a job interest survey. Such surveys should be readily accessible for quick reference by the placement staff.

C. Utilize vocational assessment, vocational skill preparation course, and work experience records to determine potential placement areas.

D. Utilize systematic procedure to match a handicapped student with one or more appropriate occupational areas.

8. Develop guidelines regarding suggested placement activities.

A. Develop informational data to dispel employer's fears regarding workman's compensation, absenteeism, and other similar concerns.

B. Develop informational data regarding adaptive devices (which usually can be procured by client at DVR expense) and modification of work tasks/work environment that will enable a physically or mentally handicapped individual to be competitively employable.

C. Develop community contacts through prevocational laboratory services, work experience programs, citizen's advisory committee, and parent organizations.

D. Develop and regularly use contacts with DVR, State Employment Service, agencies funded by the Comprehensive Employment Training Act, university-based education-rehabilitation centers, and community agencies serving the handicapped.

E. Develop procedures for actively searching for job opportunities rather than merely waiting for a prospective employer to call the school.

(1) Conduct a community survey regarding job possibilities for the handicapped.

(2) Arrange for periodic visits to local business and industry—this personal contact is extremely important in placing students.

(3) Develop a contact file.

(4) Invite personnel directors and other people responsible for hiring to lunch at the school once a month. Priority should be given to employers identified by surveys, personal contacts as having positions suitable for qualified handicapped high school graduates.

(5) Develop organized communication lines for industry to contact the proper school official.

(6) Establish times for local business and industry to come to the school to interview students.

9. Establish on-the-job follow-up procedures: the school's responsibility to the program graduate (or early school leaver) does not stop when the former student has been employed. It is essential that follow-up be conducted by the placement coordinator or his designee so as to determine how the handicapped individual is adjusting, how the employer is reacting, what problems are devleoping which he might resolve, and all of the other details essential to his giving proper service to the program graduate and to the employer.

A. The timing of the initial follow-up should be controlled by the circumstances of the individual case. With some program graduates it might be advisable to follow-up within the first few days after placement; with others the employer or the handicapped person himself may feel this is an unwarranted imposition. Usually follow-up should be initiated fifteen to thirty days after placement. This allows opportunity for the individual to adjust to the job situation and decide if he likes the position as well as its suitability for him; also, by this time, the employer and coworkers will have formed some opinions on the program graduate's acceptability as a worker and as a person.

B. Additional follow-up should then be scheduled at sixty and ninety day intervals after the placement. The suitability of the placement can generally be determined within these periods. Of course, there will always be exceptions and then follow-up must be extended.

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PROCEDURES FOR PROGRAM EVALUATION

Claire Olson Szoke
Sharon Vest

Systematic program evaluation is essential to the effective operation of a career education program for the handicapped. Periodic revision of curriculum and operational procedures is required if the program is to be responsive to the needs of handicapped students in a changing society. An indepth program evaluation should be conducted annually by local educational agency/cooperative agreement administrators and program staff.

PROCEDURES

1. Collect and analyze baseline data to determine program's effectiveness in regard to providing career and vocational education programming for all handicapped students enrolled in the district. The particular handicaps represented in the total student population should serve as guidelines for needed modifications regarding facilities, staff, program offerings, and specialized services.
   A. Data to be analyzed should include:
      (1) Enrollment data: Data on the total (unduplicated) number of handicapped students (by category of major disability) enrolled in regular and special career and vocational programs. These figures should then be compared with available information on the total handicapped population in the public schools and the district.
      (2) Scope of program offerings, both regular and specially organized: For this purpose examination of a listing of specific course offerings and the number and category of handicapped students enrolled in each course is required.
      (3) Summary of services provided to help students compensate for their vocational handicap.
   B. Prepare a comprehensive report on the district's career and vocational education programming for the handicapped. A report of services provided for the handicapped needs to be more than an indication of course titles, length or even content. Given the nature of specialized treatment, services also often must be reported in terms of individual activity. This brings us to problems of reporting expenditures or costs which are hard to identify unless each of the extra services provided by specialized staff are readily identifiable. Special facilities are visible but other operational expenditures are often integrated into budgets for larger nondiscrete groups of students. Fiscal reports should identify **extra** expenditures needed for the provision of proper services for the handicapped.
2. Conduct follow-up studies of all former students (both graduates and early school leavers). Data from the "consumers" of the career education program is essential if program staff members are to realistically plan program modifications. The follow-up of former students should be conducted on a one, three, and five year basis. The need for reliable logitudinal data for program evaluation makes such **regularly** conducted follow-up studies imperative. One real measure of program effectiveness is the status of the student five years after leaving school and not merely that he or she is employed six months after graduation.

Employers who have hired handicapped graduates or early school leavers also should be surveyed. Like the student follow-up, this will provide useful data regarding the strengths of the present program and suggestions for possible modifications of the curriculum or the counseling and placement procedures.

In conducting these follow-up surveys, the following procedures are recommended:

A. Designate a person responsible for supervising follow-up activities and allocate adequate supportive staff. Such follow-up responsibilities might logically be assigned to the placement coordinator, a vocational adjustment counselor, or the program coordinator. While the development of follow-up study questionnaires to students and employers must be the responsibility of one or more professional staff members, the considerable "legwork" involved in such a study can be effectively performed by a person hired as a follow-up study clerk on a part-time basis.

B. Determine the method or methods to be used in contacting former students and their employers. Options include:
   - a follow-up study done by telephone and/or personal contact
   - a follow-up study done by letter
   - use of a postcard
   - use of a reunion letter or newspaper

   A number of problems are inherent in conducting a follow-up study of the handicapped. Mail questionnaires to the handicapped students themselves are generally ineffective, especially in the case of the mentally retarded. Somewhat better results may be received from the latter if they are sent to the former students' parents/guardians or close relatives (i.e., grandparents) rather than to the handicapped individual himself. Telephone surveys usually garner better results, although they are very time consuming and of course are impossible to use personally with the hearing impaired. In situations where the former student cannot be located, contacting friends or former employers may uncover some valuable leads. Especially in districts with a relatively small handicapped population it may prove effective to have the work experience coordinator and/or vocational adjustment counselor personally conduct the telephone interviews. Secretarial assistance will still be necessary, however, in compiling the data and handling the routine aspects of the employer survey.

C. Design the necessary survey forms. Especially for the student surveys, relative brevity and simplicity is absolutely essential. Such questions as the following should be asked of the students:
   - present status
   - additional vocational training received after graduating from the program
   - perception as to what aspects of the program have been most helpful in regard to achievement of occupational goals.
   - employment history
   - health or physical changes
   - social changes (e.g., marriage)
   - comments regarding the extent of adaptive devices and/or modification of the work environment required on the job (for physically handicapped)

   The following data should be asked of employers:
   - job title and job description of employee
   - total number of employees in firm
   - major function of firm
   - evaluation of employee's work behavior and skill competencies
   - listing of any skills essential to the job in which the worker was deficient upon employment
   - comments regarding the extent of adaptive devices and/or modification of the work environment required by employee
   - perceptions as to the effectiveness of the school district's placement and on-the-job follow-up services

D. Implement procedures designed to facilitate as high a response rate as possible from former students. The following steps are recommended:

(1) Incorporate a description of follow-up into your high school occupational information or job-related classes. This is the time when students should first hear that they are going to be followed-up a year after they graduate, three years after, and five years after. The student should have the reasons for the follow-up explained at this time.

(2) In the senior year part of the graduation orientation should regard follow-up. At this time the type of follow-up should be described. Parents should also be informed of the importance of follow-up information. Emphasize that current knowledge of a former student's employment status will help the placement staff in helping the individual find work if unemployed, move to a better job, or enroll in a trade school, community college, or on-the-job training program.

(3) The questions asked in the follow-up should be reviewed each year. The length of the follow-up should be kept to a minimum.

E. Implement procedures to facilitate total staff awareness and use of the results of the follow-up surveys. Results should be reviewed by the program corrdinator and the advisory committee and should be discussed in meetings of staff members serving the handicapped (e.g., special education teachers, vocational teachers, guidance counselors, teacher-coordinators). After the results have been reviewed the survey forms should be placed in a central file in the program coordinator's office for future reference. Copies of the compiled results should be sent to the directors of vocational education, special education, and guidance services.

3. Conduct an annual self-evaluation of the district's policies, operating procedures, program offerings, and services to the handicapped.

A. The purpose of this evaluation will be to assist in continued program planning by determining:
- the extent to which program goals and student behavioral objectives are being accomplished
- what factors are enabling or precluding the accomplishment of these goals and objectives

B. Specific items to be included in the evaluation process are:

- extent to which all categories of handicapped students are enrolled in regular and/or special career education and vocational programs
- extent to which the district utilizes community resources in developing and implementing its career education program for the handicapped
- articulation of the district's programs and services for the handicapped with those offered by other agencies serving special needs clients
- attitudinal changes on the part of counselors, instructors, and other school staff as a result of inservice training
- adequacy of the district's programs and services for the handicapped in the following areas:
  - elimination of architectural barriers
  - modifications of equipment, instructional materials, and curriculum design
  - modifications of the vocational assessment program to meet the specialized needs of the handicapped
  - expansion/modification of services in the areas of counseling, placement, and supplemental services especially designed to help students in overcoming a vocational handicap (e.g., tutorial services, readers, interpreters, note-takers, instructor aides).

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INSERVICE EDUCATION: VOCATIONAL PROGRAMMING FOR THE HANDICAPPED

Claire Olson Szoke
Sharon Vest

In developing an inservice program the following components should be considered. Program planners may wish to emphasize certain components depending on the needs of the participants and the time frame available.

1. Techniques for recognizing clinically different types of handicapping conditions and awareness of how these may effect the students' performance in the classroom, on work stations or during counseling sessions.
2. Recommended behavioral approaches (e.g., value clarification, behavior modification) designed to maximize a student's appropriate classroom behavior and learning potential.
3. Resources and procedures for implementing a comprehensive program of vocational assessment.
4. Components of a sequential career education program—procedures for integrating career awareness/exploration/orientation/preparation into the curriculum at all instructional levels.
5. Procedures for articulating and coordinating the services provided by other public and private agencies for the benefit of the handicapped.
6. Suggested modifications of curriculum design, equipment and instructional materials and teaching strategies which can assist in mainstreaming the handicapped in regular vocational programs:
    - team teaching
    - special education supplemental resource instructor
    - instructor aides/interpreters/readers/tutors
    - student teams (buddy system)
    - taped materials/braille or large print materials
    - modified/simplified instructional materials
    - low cost equipment modification
    - prescriptive educational planning (e.g., designing individualized short and long term objectives for **each** student)
    - individualized instruction: flexible exit/entrance scheduling; modular units of instruction; use and preparation of vocational exploration packages; and learning activity packages
    - emphasis on "step-by-step" and "hands-on" instruction
    - integration of academic and vocational education (e.g., reinforcement of vocational terminology and basic computational/measuring skills in special education academic classes)

7. Orientation to specific curriculum materials (e.g., Michigan Special Education/Vocational Education Cluster Guides)

8. Secondary work experience program and/or cooperative occupational education program(s) for special needs students:*
   - How to meet and relate to employers
   - How to sell employers and the general public on the advantages of hiring the handicapped
   - How to survey business and industrial situations for the identification of specific training stations and employment opportunities for the handicapped
   - How to identify the functional skill requirements for job performance and how to break these down into specific task requirements
   - How to translate job-skill requirements and task requirements into an instructional program
   - How to develop a training plan, evaluation instruments and procedures, and criteria for successful performance
   - How to develop techniques and skills for conducting ongoing "follow-up" studies in each phase of the program and feeding this information back into program evaluation and revision as it refers to the curriculum and to program modifications

Special Programs

1. Sign language: strongly recommended for all school staff who come in frequent contact with the hearing impaired—such personnel should include instructors, counselors, the school nurse and/or visiting nurse, the school psychologist, social workers, instructor aides, attendance clerks, bus drivers, and cafeteria staff as well as clerical and custodial staff who may be serving as non-academic supervisors of handicapped students.

2. Orientation and mobility concepts/non-visual instructional techniques: strongly recommended for all school staff (including non-academic supervisors) who instruct the visually impaired.

3. Job development seminar: special summer institute in which participants combine seminars on vocational programming for the handicapped with first-hand experience working on a range of entry level jobs that are typical of those held by special needs individuals.

Taken from *To Serve Those Who Are Handicapped,* Revised edition, 1975.

CHECKLIST OF CLASSROOM PROCEDURES HELPFUL TO SPECIAL NEEDS STUDENTS

Claire Olson Szoke
Sharon Vest

Applicable to most handicapped students

- Assist students in developing a more positive feeling about themselves.
- Emphasize hands-on experience.
- Use step-by-step instruction: if student cannot understand a series of steps or instructions give him one part of the directions or one step at a time.
- Keep required bookwork to a minimum. Stress the concrete and literal rather than the theoretical and abstract. Begin with concrete examples. Work from the concrete to the abstract.
- Use a variety of teaching methods—some students have a short attention span. They will be happier and more successful if given several short tasks during an hour. If they need a lot of "drill" at a certain point, present it in a different way each time.
- Use media (video tapes, films, filmstrips, captioned films, overhead transparencies, charts, taped materials) to reinforce basic concepts.
- Emphasize demonstrations rather than verbal explanations (does not apply to visually impaired).
- Demonstrate a procedure, then let the student do it. Allow the student to make a mistake and then convert that mistake into a learning experience.
- Allow ample time to complete a task—some students take longer than others to perform a task. Rushing them will only make them more anxious and thus more likely to make errors.

Applicable to visually impaired students

- Orient visually impaired student to the physical setup of the laboratory. Keep student informed of **any** changes in arrangements of furniture or equipment. Keep aisles clear of obstructions (this is also important for a student in a wheelchair or on crutches.
- Assist visually impaired student in organizing work area in a systematic fashion (e.g., use of drawer organizers for small hand tools or pieces of equipment).
- Provide individual instruction regarding the use of each piece of equipment.
- Give visually impaired student ample time for accumulating finger knowledge—teacher must aid student in moving fingers for gathering information.
- Assist student in modifying techniques needed to complete a job task—a technique is transferrable from one set of circumstances to another, whereas a special device may not be.
- Stress auditory modes of presentation. Repeat aloud what is written on the board.
- Allow student to use recording equipment in classroom.

Applicable to hearing impaired students

- Teacher and deaf student should cooperatively develop some simple signs.
- Be careful in using words with multiple meanings when talking to lip-reading hearing impaired students. Avoidance of such words will also assist the mentally retarded and educationally handicapped.
- Speak slowly and in simple grammatical patterns. Maintain constant visual contact with the student. Speak naturally and in normal conversational tone of voice.
- Don't smoke or cover your mouth when speaking. Remember that it is almost impossible for the hearing impaired individual to lipread if the speaker has a beard.
- Don't repeat the same word if it is not understood. Change to a word that is meaningful to the student.
- Don't overlook visual clues since 60% of all conversation is visual.

Taken from *To Serve Those Who Are Handicapped*, Revised Edition, 1975.

SAMPLE GUIDELINES FOR MODIFICATION OF MATERIALS

Claire Olson Szoke
Sharon Vest

Slow Learner (Educable Mentally Retarded, Learning Disabled, Educationally Handicapped)

1. Make extensive use of audio-visual aids: charts, films, slides, overhead transparencies, tapes, records, video-tapes.
2. Select materials written at a reduced reading level: some excellent materials especially designed for the mentally retarded have been developed by commercial publishers and/or educational agencies; in addition, instructional materials developed for the educationally handicapped and the hearing impaired may also be appropriate.
3. Reduce reading levels of regular instructional materials: vocabulary and sentence structure complexity, step-by-step progression of instructions, and abundant use of simple diagrams all should be taken into consideration in such a revision process.
4. Prepare a glossary of vocational terms essential for the mastery of a particular course; these should be written at a reading level within the scope of the handicapped student; use a double-reinforcement procedure whereby the glossary is used by the student both in the vocational class and in a language arts or other appropriate special education class.
5. Prepare taped versions of instructional materials.
   Note: Retarded students who are very poor readers may have up to a sixth grade comprehension level if the material is in oral rather than written form; sixth grade comprehension is the level of many popular magazines, newspapers and television shows.
6. Prepare taped versions of written tests (students permitted to either write or tape answers) or tests administered orally to the individual student.
7. Use volunteer reader (student or adult) who will read to handicapped non-reader on an individual basis.
8. Modify cassettes accompanying programmed instructional materials designed for regular students. Use a three-stage process:
   - prepare written version of taped material
   - simplify as needed this written version
   - prepare new taped version of adapted material

Orthopedically and/or Health Impaired

1. Relatively little modification of instructional materials is necessary for these students unless their physical impairment has caused them to miss so much school as to cause them to be educationally handicapped (e.g., reading two years or more below grade level). In such instances, the suggestions listed above for the slow learner are applicable.
2. Permit students with severe hand involvement to type, orally dictate or tape their answers to tests.

Hearing Impaired

1. Make extensive use of visual aids: charts, overhead transparencies, slides, captioned films.
2. Select materials written at a reduced reading level: some excellent materials especially designed for the hearing impaired have been developed by educational agencies and/or commercial publishers. In addition, instructional materials developed for the educable mentally retarded/educationally handicapped may also be appropriate.
3. Prepare written version of taped materials.
4. Modify cassettes accompanying programmed instructional materials. Use a two-stage process:
   - prepare written version of taped material
   - simplify as needed this written version
5. Reduce reading level of regular instructional materials.
6. Prepare glossary—at easy reading level—of vocabulary items essential for the mastery of a particular course.

Visually Impaired

1. Make extensive use of records and tapes.
2. Select braille, thermo-formed or large print versions of regular materials.
3. Prepare versions (or records) of written materials.
   Note: Volunteer service agencies will tape textbooks free of charge for the visually impaired—they cannot do this overnight, however, but must have the text in advance.
4. Use volunteer reader (student or adult) who will read material to student on an individual basis.
5. Prepare taped versions of written tests (student permitted to tape or type answers) or tests administered orally to the individual student.

Taken from *To Serve Those Who Are Handicapped*, Revised Edition, 1975.

Curriculum Strategies and Methods for Disadvantaged Students

Lawrence Weisman

Introduction

Curriculum strategies and techniques used in instructional programs for teaching disadvantaged students can be successful if they are selected or prepared specifically to meet the needs of those who are to be served. These techniques should not only appeal to the learning styles and interests of the students, but the learners should also believe that to accomplish their goals. It is also essential for the vocational teacher to communicate sincere and honest expectations for the students to succeed (Maxwell, 1973).

Obviously, methods of instructions should be suited to each student. The same technique may not be effective with every disadvantaged student. To develop or select the right method and technique(s) for each individual student, the instructor must know the student's capabilities, needs, interests, and desires.

Individualizing Instruction

Individualized instruction has the greatest potential for the above requirements. In some occupational areas there are many individualized learning packages available commercially. In other areas, the initial effort of preparing them is worthwhile. Many instructors report that the perssures of maintaining interest and discipline practically disappear with the use of individualized instruction. Preparations are eventually reduced to updating materials. The role of the teacher changes to that of the planner and expert resource person. Student's respect for teachers increases considerably when they find that teachers have answers to things they, the students, can't work out. Individualized instruction is not new to vocational education. The differences are only in the level of preplanning that makes it systematic and in the amount of written or recorded procedural instructions that are available.

One important fact about individualized learning techniques is that they permit instruction to *start where the student is*. The fact acknowledges skills which students may acquired previously and thus reduces boredum for many. At the same time students who have little or no knowledge or skills need not be embarrassed. Some teachers are concerned about the lack of pressure to work when students are allowed to progress at their own rate. In fact, the strategy depends on other motivators: young people are naturally curious, they want to acquire knowledge and skills in areas that interest them. Another important motivator is success. If students, especially those who previously experienced mostly failure, are experiencing success they will be strongly motivated to proceed.

Reality Based Instruction

It is essential for instruction to be practical and basic in nature. The amount of reading required for each instruction should be related to the requirements of the occupation and written at levels suited to the student's ability and need for skill development. Any classroom instructional units based on shop work, laboratory practice, or on-the-job (work-study, co-op) experiences of students will influence their interests in the subject matter. Many educators believe that learning by doing is considered the best teaching method for disadvantaged as well as non-disadvantaged students (Bobbit and Letwin, 1971). When utilizing advantaged students in the classroom, the instructor should make them available to all students, but ensure that the disadvantaged students have the opportunity to use them.

Motivation

There are a vast number of effective curriculum strategies that can be implemented; however, the technique(s) a teacher uses, and the degree of its effectiveness depends upon the individual student; his/her acquisition of skills, particular needs, behaviors, and interests. The vocational instructor should keep in mind that the students with whom we are concerned have a reasonable degree of ability and that they can learn if adequately motivated or reinforced (Thomas, 1973). There are various approaches and techniques that teachers can use for motivation of disadvantaged students.

Being rewarded for doing something correctly usually causes that behavior to be repeated. The rewards should be appropriate to the situation and meaningful to the student. Kausmeier and Ripple (1971) mention that a reward is something given to a person which brings pleasure or satisfaction. This "something" can be materialistic, verbal praise, or non-verbal gestures. If appropriate rewards are given immediately, there is a tendency for the behavior exhibited to be strenghthened and repeated. McCandless (1967) notes that the reward given must be relevant to the needs of the student as well as match the activity associated with it. A student who is withdrawn from class may be drawn into participation if a particular stimulus can be found. If a correct response is followed by an immediate reward, and if the student values the reward, he/she may pay attention in class a higher percent of the time. Another technique for including the withdrawn student in class activities is to encourage him/her to report some of his/her experiences to the class (Thomas, 1973).

Disadvantaged students are not always successful in their class activities. Constant reinforcement may give them unrealistic expectations about themselves and possibly difficulty when they leave the school. Furthermore, they should not be punished for non-success, instead the instructor should make them aware that they are not performing a learning activity correctly. However, negative rewards (punishment) might be appropriate, even expected, for negative behavior.

When a teacher realizes that a particular student, because of special learning needs, can be helped when rewards and praises are given more frequently than to other students, the teacher should consider activities which take shorter time for accomplishment (laddering, mini courses, etc.)

Feedback, or knowledge of results, is a motivational technique based on theories of behavior change (Thomas, 1973). Feedback provides an individual with information about how he/she is doing, and may include hints as to how the student can improve his/her situation. Immediate feedback of a positive nature will probably provide reinforcement and increase the probability of repeated behavior. According to Thomas, there are three types of reinforcements that a vocational teacher, with regard to situation and availability, can utilize for motivation of his/her students.

1. Verbal reinforcements (written or oral) that can be used as teacher to student, teacher to the whole class, or teacher to the whole school.
2. Nonverbal (physical gestures or contact).
3. Material (money, food, or special privileges).

Satisfaction in Accomplishments

Vocational teachers have an advantage over other teachers in that their students are producing tangible goods as evidence of their achievements. Students can see that they have run a good bead or typed a neat, balanced letter. Self-sufficiency is needed to function as an adult and anything they do that makes students feel self-sufficient contributes to their self-image as adults. Because grades are too remote from this reality they may be inadequate motivators for many students.

Less tangible products may also be reinforcing. For example, the opportunity to role play a situation in which the supervisor "successfully leads a discussion," or a simulated shop in which the "service manager" successfully identifies problems and distributes work may provide reinforcement to some students.

Implementation

Vocational education teachers, when using the following suggested curriculum strategies or activity sheets, for teaching the disadvantaged, should consider combining them with all possible motivational techniques. If, for some reason, a particular method does not appeal to the teacher or does not appear to be feasible for his/her students, it should not be discarded. Instead, it should be changed, reformed, revised and put together in a new way: in doing this, however, it is essential that those key points which serve specified needs be identified and preserved.

Individualized Instruction: Individually Diagnosed and Prescribed Instruction

STUDENT CHARACTERISTICS:

Has a high fear of failure (does not want to take the first step or assume responsibility). Wants to be told what to do and how to do it (followers). Unwilling to be involved in self-directed, self-initiated learning activities.

ACTIVITY DESCRIPTION:

The instructor with the help of a guidance counselor, student's career data book (Flanagan, 1973), student's file, etc..., will determine the student's needs and select or develop a program of study for him/her. The program of instruction should have prescribed objectives, operational procedures for required performances, and methods of evaluation tailored for each student with regards to his/her inventory of abilities and career objectives. This prescribed program should contain a curriculum unit (Dupuis, 1974), relevant content modules for each unit of study in behavioral objective terms (Mager, 1962) and a list of tasks and activities that must be performed. The instructor should identify an evaluation system in which students achievements can be monitored and modifications can be made to the program if necessary. The instructor should make a copy of the prescribed instruction and evaluation procedures available to the student. The teacher must manage, monitor student learning, and assist or guide the student step-by-step as needed.

This method will provide a high rate of success for the student when the prescribed activities are responsive to the needs of the student and the instructor exhibits a genuine interest in the student.

Potential Advantages

1. Develops self-assurance, competence, and independence through success and accomplishment.
2. Motivates the student to take the first step and make decisions.
3. Develops positive working habits.
4. Increases student aspirations and encourages the student to assume responsibility.
5. Instructor's interest in and respect for student's work will develop the student's self-respect.
6. Makes best use of students stronger qualities.

Potential Disadvantages

1. Requires a lot of time for initial preparation.
2. Requires evaluation and revision for valid development.
3. Requires awareness of student's needs, interests, and capabilities.
4. Requires a comprehensive inventory of modular instructional material. Much can be purchased, but some will need to be developed.

SELECTED REFERENCES:

Towne, D. C., and Wallace, S., *Vocational Instructional Materials for Students with Special Needs.* Portland, Oregon: Northwest Regional Educational Laboratory, 1972.

Mager, R. F., *Preparing Instructional Objectives.* Palo Alto, California: Fearon Publishers, 1962.

Flanagan, J. C., Tiedeman, D. V., Willis, M. B., and McLaughlin, D. H., *The Career Data Book: Results From Project Talent's Five Year Follow-up Study.* Palo Alto, California: American Institute for Research, 1973.

Dupuis, V., and Bell, P. E., "A Modular Approach to Vocational Curriculum," *American Vocational Journal.* April 1974.

Finch, C. R., *Self Instructional Methods of Teaching Diagnostic Problem Solving to Automotive Students.* University Park, Pennsylvania: Vocational Education Research Report, Department of Vocational Education, The Pennsylvania State University, 1969. (ED 030 735)

This activity was taken from *A Handbook For Developing Vocational Programs and Services For Disadvantaged Students.* The Handbook was developed pursuant to a contract with the Department of Adult, Vocational and Technical Education, Illinois Office of Education (Contract RDD-B5-113).

Dr. Lawrence Weisman, Southern Illinois University, served as the Project Director for the *Handbook.*

Individualized Instruction; Discovery Learning (Secondary-Group Instruction)

STUDENT CHARACTERISTICS:

Latent or overt curiosity and creativity.

ACTIVITY DESCRIPTION:

The instructor will set up a situation(s), according to the learning problem, so the student discovers through his/her own investigation or experimentation. The teacher will make all resources, tools, and facilities, available for the student, so that he/she can experiment individually to discover solutions to various problems. In an auto class, for example, where tools, charts, and manuals are available, an instructor may give one or two students a carburetor to disassemble, clean, and assemble. Through this activity the student(s) will learn the different parts, their relationships, and their functions without receiving prior instruction from the instructor. This strategy will encourage the learner:

1. To develop a systematic approach to follow in order to achieve the objective.
2. To improve his/her knowledge and skill by evaluating his/her own timing, perserverance, and overall understanding.
3. To become confident to work with new problems independently and to study independently.

Potential Advantages

1. Encourages students to utilize logical procedures for solving problems.
2. Encourages the student to consider alternatives for decision making.
3. Allows students to work at their own pace, and bring out their creativeness.
4. Utilizes students previously acquired knowledge.
5. Provides flexibility for meeting students career and learning style needs.

Disadvantages

1. Requires space where a student can store his/her unfinished task or project where it will not be disturbed.
2. The instructor needs broad preparation or other resources to assist with unforseen problems.
3. There is a higher risk of wasted materials or damaged equipment than with traditional learning sequences.

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Individualized Instruction: Work Stations

STUDENT CHARACTERISTICS:

Problem centered (wants to solve problems by doing and experiencing). Difficulty in communication (verbalization of problem), limited learning (slow learner or low achiever who has to work at his/her own speed). Needs structured learning experiences.

ACTIVITY DESCRIPTION:

Instructor will select a modular unit (Dupius & Bell, 1974) which is appropriate for the class, divide it into subunits, then set up work stations around the classroom with enough space for two or three students to work. At each work station a different sub-unit should be explored, studied or experimented with. The type of learning experience to be encountered at each work station depends on the subject matter. The teacher should have a list of tasks or skills which each student will perform at each station. He/she could prepare a sheet with the specific behavioral objectives on it so that the student will have a chance to respond and evaluate his/her own mastery level. A student can work at his/her own rate to accomplish the objectives set for each station. Once the student has completed the work he/she may move on to another work station. A disadvantaged student may still be working at a station when another student arrives. It would then be the disadvantaged student's job to explain to the other student what must be accomplished at the station.

Potential Advantages

1. Motivates students to accomplish more.
2. Motivates students to learn the subject, because they may want to explain it to others.
3. Experiencing and explaining will help learning and retention.
4. Integration of disadvantaged and non-disadvantaged will take place in such a way that every person will work at his/her own rate.
5. Provides some free time for teachers for observation and planning for improvement.

Potential Disadvantages

1. Requires experienced staff with a variety of experience in the subject matter.
2. Requires advance preparation.
3. Requires some knowledge of task analysis and writing behavioral objectives.
4. Limited class size to gain reasonable span of control.

INSTRUCTIONAL MATERIALS:

According to the modular unit selected by the instructor, he/she should prepare:

1. List of all sub-units of the subject matter.
2. List of tasks and skills (competency-based) to be performed.
3. List of objectives to be accomplished.
4. References and resources needed for each station.

SELECTED REFERENCES:

Dupuis, V. and Bell, P. E. "A Modular Approach to Vocational Curriculum," *American Vocational Journal.* April, 1974

Mager, R. F. *Preparing Instructional Objectives.* Palo Alto, California: Fearon Publishers, 1962.

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Individualized Instruction: Independent Study

STUDENT CHARACTERISTICS:

Needs to work at own pace. Individualistic, self-directed, creative thinker. Achieves below apparent ability. May be a disciplinary problem.

NEEDS FULFILLED:

Develops self-direction and motivation. Student learns how to utilize available resources. Student becomes involved in decision making. Student learns to become independent. Allows student to be a responsible person.

ACTIVITY DESCRIPTION:

Student selects appropriate instructional objective(s), with the teacher's approval, and identifies the strategies to be followed for his/accomplishment of those objectives, (contract method). An alternative would be to have the teacher identify a project or a group of projects from which the student may make a selection. It is more of a research type activity.

Potential Advantages

1. Allows students to make choices.
2. Students may work at their own pace.
3. Motivates students to complete their objectives or projects, (using choice as a motivating factor).
4. Develops self-assurance and decision-making skills.

Potential Disadvantages

1. Because of the time involved, student's choice are limited.
2. Requires a staff with a variety of experiences.
3. Students, especially disadvantaged, may fail to utilize the expertise of community resource people.

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Individualized Instruction: Learning Packages

STUDENT CHARACTERISTICS:

Unhappy with traditional classroom organization. Capable of working independently.

ACTIVITY DESCRIPTION:

A learning package is a package of instructional material, in written and audio-visual modes designed to provide a variety of learning activities for each student to accomplish. There are several different formats described below which teachers may select to develop packages for the purpose of teaching a concept.

When the learning packages are being constructed, the instructor should incorporate different learning situations to accommodate the many different abilities, desires, and learning styles to suit his/her student's needs. The learning package consists of a pre-test, a post-test, and several learning experiences (Wray 1974, Smith, 1969). Utilization of learning packages allows students to advance at their own rate. The learning packages may be used every day, or they may be used occasionally to teach or to clarify a detailed concept.

This delivery tool provides an opportunity for teachers to write and develop instructional materials at any reading level to deal with the low, average, and high-ability student. One of the important features of learning packages is that they can be implemented in a single class situation and still provide all the students with meaningful learning experiences. To develop a learning package, Smith (1969) provides a step-by-step procedure, "A LAP On Writing LAP's" (learning activity package) which instructors can follow in preparing packages. Wray (1974) has also suggested procedures and these materials, in booklets and audio cassettes are readily available. (See reference below)

Potential Advantages

1. Provides immediate feedback which motivates students to further their accomplishments.
2. Provides a chance to pace student according to individual ability.
3. The instructor becomes a manager and gets more of a chance to guide the students on an individual basis.
4. Provides self-organization, self-evaluation, self-discipline, and self-actualization.

Potential Disadvantages

1. Requires a lot of preparation.
2. Requires awareness of student capabilities (do not use a package which was designed for low reading ability students for high-ability or vice-versa).

INSTRUCTIONAL MATERIALS:

Will be prepared by the teacher. However, the following items should be available for the students: course outline, list of learning packages, behavioral objectives, evaluation policy, and all resources needed for learning packages.

SELECTED REFERENCES:

Smith K. T., *A LAP on Writing LAP's, Educational System for the Seventies*. Broward County: Board of Public Instruction, n.p., 1969.

Wray, R. D., *Developing and Utilizing Self-Instructional Materials, A Self-Instructional Package for Occupational Teachers*. Springfield, Illinois: Division of Vocational and Technical Education, 1974.

This activity was taken from *A Handbook For Developing Vocational Programs and Services For Disadvantaged Students*. The Handbook was developed pursuant to a contract with the Department of Adult, Vocational and Technical Education, Illinois Office of Education (Contract RDD-B5-113).

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Individualized Instruction: Project Method

ACTIVITY DESCRIPTION:

Students select individually, or in small groups, a project of special interest with instructor's approval. They will investigate and prepare: necessary sketches, drawings, specifications, list of materials, facilities, procedures, and alternatives for the project. One of the important aspects of this strategy is that it provides practical means of applying other units of instruction. As the students become involved with their projects they will encounter problems and recognize the need for related instruction. In may instances the students contact different resource persons for related instruction.

The instructor should give the student assistance and guidance when needed. In some instances the teacher may observe students engaged in a process that is likely to fail. As long as it is safe and educationally valuable, students should be allowed to learn by their mistakes (excepting students who are not secure enough to withstand failure).

Potential Advantages

1. Provides maximum motivation for creativeness.
2. Provides maximum growth for independence.
3. Provides self-satisfaction.
4. Gives disadvantaged students a chance to express themselves with their work.
5. Provides awareness of hidden abilities.
6. Provides recognition, acceptance, and respect for the disadvantaged student.

FACILITIES/EQUIPMENT:

Access to a laboratory, shop, or large classroom with different equipment which would be flexible depending on the nature of the project(s) selected. However, the community resources should be utilized when possible.

INSTRUCTIONAL MATERIALS:

Instructional materials are inherent in the project, but most of the instructions will be prepared by the teacher, student, or resource person. In addition, the following should be available for the use of students: texts, references, operator's manuals, etc.

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Simulated Occupational Experience Programs

STUDENT CHARACTERISTICS:

Wants "hands-on" experience (physically oriented). Can be motivated by seeing the finished product (visually oriented). Can be motivated by peer groups. Likes theory in conjunction with the performance on his job.

ACTIVITY DESCRIPTION:

The teacher, with the help of the students, will organize a simulated program to produce a product or provide a service. This program will utilize school resources and provide on-the-job training. The objective of this program is to develop a work environment that allows each student, including disadvantaged and handicapped, to become involved in real work activities and have opportunity to observe different tasks of functional occupation. Manpower at the management, supervisory, and operator levels should be selected by the teacher and class members. Each student should have responsibility and receive a job description. Rotating positions is desirable so that students will have a chance to experiment in different job roles to discover the roles which interest them. Individual students will be encouraged to investigate and describe or apply the procedures or procedural changes appropriate for his/her operation. There may be an I.D. card issued for each student and even a punch clock may be used for roll taking if these things are typical in the occupational area. Students will participate in decision-making activities and determine the final procedures, materials, equipment, facilities, cost estimates, etc., when needed for production. These are the concepts fostered in Junior Achievement and the Vocational Industrial Clubs of America (VICA).

At the end of each simulated program, the instructor should encourage the manager(s), foreman, and others to prepare a final report of what they did. Their reports should be combined, as a book (project book), and held at the school (Resource Center) for references.

Potential Advantages

1. Provides immediate feedback and allows students to judge their achievements.
2. Generates students' full involvement, and makes them responsible for their activities.
3. Offers work habits, work attitudes, and how to get along with others.
4. Can be used for initial or sole integration of disadvantaged and non-disadvantaged students and facilitates mainstreaming process. Instruction is mostly based on peer system.
5. Provides occupational information by observing others perform or by rotating the tasks.

Potential Disadvantages

1. Requires an experienced and qualified instructor.
2. May require flexible scheduling.
3. May require a large space.
4. May require some equipment, tools, and supplies.

5. Limited applications for a class with a small number of students.
6. May require use of LEA and local community resource persons.

SELECTED REFERENCES:

Wright, L. E., and others. *The Office: Reality Training Through Simulation.* St. Paul, Minnesota: Minnesota Mining and Manufacturing Company, 1971. (VT 015 625)

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This activity was taken from *A Handbook For Developing Vocational Programs and Services For Disadvantaged Students.* The Handbook was developed pursuant to a contract with the Department of Adult, Vocational and Technical Education, Illinois Office of Education (Contract RDD-B5-113).

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Mini Courses

ACTIVITY DESCRIPTION:

Mini courses are short courses designed to give quick understanding of a concept, idea, skill, technique or method. They are actually short courses within a total course or program. The length of a mini course varies with the content to be included, but should relate to some completed unit such as attainment of an entry level skill. Some schools set aside two or three weeks of the school year for mini courses related to career choice. Ideally, enough courses are offered at one time so that the number of participants in each is small.

Students should choose the ones in which they are most interested. They may choose the order in which they would like to take mini courses, if it is possible to take them out of sequence. Mini courses emphasize practical, on-the-job training of a wide variety of industrial skills, rather than emphasizing textbooks, (Steirer, 1974). Mini courses do not have tests, and are only for the purpose of getting familiar with the activities, tasks, and working conditions of each occupation. Observing student's interest and performance may help instructors and counselors to assist each student to clarify his/her vocational choice.

Potential Advantages

Mini courses maximize education for disadvantaged students for the following reasons:

1. Students are able to choose what they will study.
2. Smaller groups enable the instructor to work on a more personal basis with students.
3. The lack of pressures of evaluation will motivate the student's interest and encourage them to work harder.
4. "Hand-on" experience will motivate students who do poorly with theoretical approaches and ability provides experience with the manipulative aspects of the occupation which may aid them in selecting a career objective.

Potential Disadvantages

1. Requires advance preparation.
2. Requires specialist staff members.
3. Requires extensive coordination and planning.

SELECTED REFERENCES:

Steirer, M. D. "Mini Courses Get It All In," *American Vocational Journal*. October, 1974.

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Laddering Course Modules

STUDENT CHARACTERISTICS:

Short attention span, low success, low academic motivation, economic or social pressures to leave school.

ACTIVITY DESCRIPTION:

Laddering of course modules refers to short achievement levels (sub-courses) within a course or program of instruction. The instructor or occupational area chairperson will divide course or program into smaller units related to entry levels. The student will receive credit for the course upon the completion of all sub-units. When dealing with students who have had few successes, the teacher should develop short units where each behavioral objective can be accomplished in a short time so that the student will be rewarded and praised (reinforced) immediately and frequently. This accomplishment, as a motivating factor, will encourage the students to use their maximum capacities. With continuous contact, the instructor will witness the change and assign longer units to develop longer attention.

Programs which provide units that correspond to "work stations"* have a strong basis of reality for students whose level of vocational maturation requires acquisition of vocational skills. They are also equally important for those students whose family or economic circumstances make the possibility of remaining in school insecure.

Each student should be provided with a copy of the behavioral objectives and progress sheets, so that they will be encouraged to observe and evaluate their own performance.

Potential Advantages

Laddering can enhance education for the disadvantaged for the following reasons:

1. Students have frequent, distinct "rungs" of success. They can, if necessary, drop out of school and still have a feeling of success which would encourage them to return to school.
2. Close contact makes it possible for the instructor to see if the student is developing a longer attention span.
3. Variety of instruction can create interest.

Potential Disadvantages

1. May require reorganization or even redevelopment of the curriculum materials used in traditional instruction.
2. Requires qualified and experienced staff.
3. Requires close contact with students and frequent checks on their progress.

SELECTED REFERENCES:

Mager, R. F., *Preparing Instructional Objectives*. Palo Alto, California: Fearon Publishers, 1962.

*James Sullivan, Professor of Occupational Education at SIU-C describes work stations as portions of an occupational area for which employment skills are available.

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Student Tutors—Peer Tutoring

STUDENT CHARACTERISTICS:

Underachievers, slow readers, short attention span.

ACTIVITY DESCRIPTION:

Supportive services within and outside of the classroom may be required for disadvantaged students enrolled in a vocational program. Vocational education is such an activity-oriented program that a tutor is often necessary. A student, volunteer or paid, who has previously successfully completed the class or unit of instruction can help one or more disadvantaged student by serving as a student tutor. The instructor should go through the proper channels in his/her particular school to arrange credit or weekly wages for students who serve as student tutors. Student councils, or the individual class instructors, can be influential in organizing such services.

Disadvantaged students should be encouraged to apply for this position. Seeing that a disadvantaged student can meet the criteria to be a student tutor may serve as an inspiration to other disadvantaged students. These tutors are often able to communicate with other disadvantaged students when the teacher has not been successful.

Potential Advantages

Utilization of the peer tutor strategy can bring about the following:

1. It may assist the successful integration of the disadvantaged students into the regular vocational classes.
2. It may stimulate a social intermingling on a one-to-one basis between disadvantaged and non-disadvantaged students.
3. It may improve self-concept, knowledge of the subject and communication techniques of the student tutor and instill a spirit of responsibility in the tutor.
4. It may provide credit, financial help and recognition for the tutor.

Potential Disadvantages

1. Limited number of student volunteers, especially when dealing with the disadvantaged student who is older or the same age, because of other demands on student's time.
2. Staff needs to coordinate the activity and assist the tutors with materials and teaching techniques.

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School Based Enterprise

STUDENT CHARACTERISTICS:

Need "hands-on," practical experience. Need tangible successes as opposed to abstract successes (grades). Are strongly influenced by peer groups. Learn theory through application.

ACTIVITY DESCRIPTION:

One or more classes get together and organize a simulated enterprise to produce and market a product. This enterprise will utilize school resources, and provide "on the job" training. The objective of this strategy is to develop a work environment that allows each student, including disadvantaged and handicapped, to become involved in a real work activity. Students may be placed into positions that take in to account their assets and limitations. They will have an opportunity to observe and explore different employment positions functioning within an organization, and have a chance to work with other teachers and community resource persons. The staff positions needed for this enterprise such as president, vice president, department head, operator, etc. will be designed by the students with the guidance of the teacher. Teachers may act as a board of directors and give guidance and supervision when needed. Each student will have a responsibility to perform, individually or in groups. Each will receive a job description. The students will be encouraged to investigate and suggest ways their operations may be performed. Students will participate in policy and decision making activities. They will determine products to be manufactured, the procedure, materials, equipment, cost, etc.

By joining several classes together, students with skills in management, marketing, office procedures will be able to work with students learning production skills for a complete, integrated commercial experience. Students may also have a chance to apply for a different job experience, e.g., the marketing student may try production.

Potential Advantages

1. Gives a chance for students to discover their hidden capabilities (role playing).
2. Gives them a chance to be involved in decision and/or policy making.
3. On-the-job experience, as a productive member, creates self-satisfaction.
4. Being involved directly with manufacturing a product they are motivated by the desire to see the finished product.
5. Having successfully produced an item and marketed it, students gain self-confidence.
6. Cooperation between instructors and their students will create an environment of mutual appreciation and respect.

Potential Disadvantages

1. Requires involvement and cooperation of more than one class.
2. Requires a laboratory or a shop with different kinds of equipment.
3. Requires advance preparation.
4. Requires good record keeping and filing.

INSTRUCTIONAL MATERIALS:

Technical materials are available from major manufacturers and associations. Textbooks on management and production: Distributive Education Club of America (DECA) and Vocational Industrial Club of America (VICA) regional officers are good sources for materials. Small business administrations publish a wide variety of materials available through the Government Printing Office.

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Simulated Industrial Manufacturing Company, An Implementation of Orchestrated Systems for Industrial Professional Students, Terre Haute, Indiana: School of Technology, Indiana State University.

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Community Based Industry

STUDENT CHARACTERISTICS:

Requires financial help to stay in school. Does not relate academic work to career goals. Students do not abstract or project goals well. Students are at that level of psychological development where they require opportunities for responsibility and self-direction.

ACTIVITY DESCRIPTION:

Using community resources, the program coordinator has market research conducted to determine one or more services or products for which there is adequate demand to support a continuing enterprise. Ideally enterprises identified would expand the economic base of the community.

Students who are to be offered this option would meet with the coordinator and select one of the options. Using community resources, to include academic resources, students would participate in location of resources and outlets and in process design.

Using such community resources as civic organizations, chamber of commerce, banks, realtors, etc., capital would be located and a corporate entity established.

While each enterprise would have to be designed individually, certain principles would be common:

1. Participating students would be given shares or options on shares, but would have to sell back their shares should they leave the program prior to completion.
2. Students would participate as cooperative students with the coordinator providing related training as in any cooperative program. Two essential differences exist:
   a. The work station belongs to the student, not the program.
   b. There would possibly be only one employer (the corporation) with whom the coordinator would have to deal.
3. Related vocational classes would run the gamut of the enterprise; from management, to production, to shipping, etc.
4. Students of all ability levels, with and without handicaps can and should be included.
5. Students should be paid commensurately with other cooperative students, but have the added benefit of dividend income.
6. Upon graduation, each student has the option to remain with the corporation as a full-time employee.
7. Corporations thus formed can become parent organizations or may simply assist in advisory capacities.

Potential Advantages

Benefits for Students

1. On the job training.
2. Guaranteed employment opportunity.
3. Motivation for staying in school and studying for an occupation.
4. Job related school training.
5. Economic independence.
6. Learning how to get along with others.
7. Learning how to work together.

Benefits for School

1. Minimum absenteeism.
2. Minimum school dropouts.
3. Lower cost alternative to shop related occupation course.

Benefits for Community

1. New business.
2. Economic growth.
3. Opportunity for new employment.
4. Opportunity for additional businesses.
5. Recognition.

Potential Disadvantages

1. The strategy described has not been tested as a complete model. Major components have been implemented in Illinois and elsewhere.
2. Requires planning and organizational time.
3. Requires coordinator with broad talents to pull together community resources.

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Games for Technical Skills

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In occupational education, applications of gaming have typically related to areas such as management, secretarial science, finance and economics. Application in industrial and technical education, have been practically nil. This is probable because transference of principles from socially interacting variables to mechanically interacting variables are not readily observed.

The author first considered the possibility of developing games in such areas as automotives, aviation and electronics in a class in instructional methods in occupational education at Southern Illinois University in the Fall of 1971.

Robert Knox, an automotive technology education major, developed a game on the principles of automotive air-conditioning. The game could easily be adapted to basic air conditioning or refrigeration because it was designed around the basic air conditioning cycle. Students gained an understanding of the interaction between heat and pressure and of the functioning of the various components of the system. This game was sufficiently sophisticated for students in career programs at the post secondary level. The consensus of the class was that it would be useful as an introductory devise at the secondary, or even at the elementary level.

A game on the use of digital applications to systems development was engineered by Garry Slankard, Jesse Ramey, and Gary Harrell, pre-service electronics teachers. This game utilized basic digital principles to solve problems in electronic circuitry. The level of sophistication was appropriate to the post secondary level and produced good interaction in the class.

In subsequent semesters some principles were developed. These provide guidelines for the application and development of technological games. Empirical studies conducted by students in these classes have indicated that games provide high student interest, good retention and an efficient time/achievement ratio. However, this author believes that a steady diet of games, or, for that matter, of any single instructional technique, would become tiresome. Therefore, games should be used intermittently, with material which lends itself well to the technique.

Technological games may be classified in two broad categories: systems-based games and "spelling bee" type games. The latter are useful whenever development of recall of cognitive material is desired: nomenclature; properties of materials, such as melting points; hardness and maleability; are examples of some of the data that can be studied in this way. Spelling bee principles can also be used in learning simple neuromotor skills.

"Spelling Bee" Games

In the development of spelling bee games, two phases should be considered; learning, and skill building. Surprisingly, it is usually not necessary to give prior instruction in the material to be learned and it is the elimination of this step that enhances the time/achievement ratio. The learning principles utilized here are: (1) that students have some prior direct or related knowledge and that they will make connections with these established cognitive systems, (2) that, through chance, they will make a number of "discoveries," and (3) that these experiences represent active learning activities which provide better retention than do such passive activities as listening (cognitive) or watching (neuromotor).

The first step in the process of developing these games is to list the cognitive or neuromotor skills (or learning moelcules) to be learned. In the learning phase, point values are assigned to each molecule; normally these should be equal, but circumstances may suggest that they be weighted. The question may be in a written quiz format or they may be dictated, but the former is preferable. Answers are then given and the students score themselves. Depending on the nature of the material, it may be appropriate to discuss the material and the students ought to be allowed to record the correct answers. Scores are recorded (but not for grades) and winners are announced. In some cases teachers may wish to provide extrinsic rewards as well.

More interesting formats may be developed for cognitive molecules following radio and T.V. models which are, after all, based on simple recall. In a recent article, Dostal describes a series of games she has designed to teach shorthand, but which may present some ideas for adaptation by technical instructors.[1]

Several sets of this material should be prepared with the questions in different sequences so that the game may be repeated, or cycled, until everyone in the class achieves mastery level.

In the skill-building phase, it is well to assume that there is no value in awarding points to each molecule, because everyone has mastered them. However, tests should be timed and scored on the basis of the time frame in which the students completed. It might be useful to label the time frames novice, apprentice, journeyman and master. The skill building game should be

recycled until all of the class has reached the master level. Students achieving the master level twice may be permitted to drop out of the game and monitor, keep score or do some other activity. The skill-building game should include provision for checking results and deducting points for errors.

The repetitions actually begin in the learning phase so that skill-building through this type of reinforcement actually begins then. The number of repetitions may prove boring for some students but this may be outweighed by a number of factors or techniques. First, this technique is faster, more effective and less boring than rote memory activities and the students are quick to realize it. Second, good pacing can avoid much of the boredom from repetition and this can be accomplished simply with good planning and organization. Finally, games imply "fun" and the class will respond favorably to humor and "prizes;" for this reason it is suggested that games *not* be played for grades.

Systems Games

Any process, cycle or system may be considered for development into a game. Electronic systems, data programs, fluid mechanical systems all adapt well. Students learn skills in systems design at the same time as they learn fundamental theories. This kind of training in creative thinking enhances the transportability of the students' skill when they reach the job market.

The systems game may begin with a spelling bee game to learn the nomenclature or symbols required to play. However, this step may be bypassed by using a handout listing these molecules. This works well with cognitive molecules since the systems game itself will provide the connections and repetitions necessary for learning. For neuromotor molecules, prior skill building may be more appropriate.

The system games proceed a little differently than spelling bee games in that they are not as blatantly repetitious, but move from the simple to the complex. As an example I shall describe, in composite, games that several of my students have developed for teaching orthographic projections.

The students are instructed that visible edges are shown by solid lines, hidden edges are shown by dotted lines. Each student is given a packet of prepared drawings. Each page is divided in half: the upper half has a completed drawing, the lower half has an incomplete drawing. On page one the upper half shows three views of a simple block. On the lower half of the page, the block is shown cut away, but this is reflected on only one drawing; the student is directed to project this onto the other two views. Upon completing this task the student turns to the next page where the correct drawing is provided on the upper half. Subsequent pages show the addition of a *chamfer*, a square hole, a round hole, an angled hole, a conical hole, an angled section cutout or whatever the game designed desires. Some of the more complicated additions may require the use of two views with the student drawing the projection only on to the third view.

Elementary games may be self-paced with cumulative scoring. The instructor acts as a resource person to explain, usually on an individual basis, any of the steps that a student does not understand. It is important that the instructor emphasize that the students should not proceed if they are not certain of what they are doing; time permitting, it is a good idea for the instructor to circulate to ensure that the students are on the right track since some students are reluctant to admit lack of comprehension. Advanced drafting games may be played using more complicated drawings using cumulative scoring, or the scoring system may be changed to build production skills. For example, if we awarded points based on completion time we could build speed. If we adjusted these scored with points awarded or deducted for neatness, cleanliness, etc., we could build quality.

Where the game is designed to teach theory only, graph paper may be used to save time in measuring and alignment.

Similarly, systems games may be built with electronic circuits or data programs. Basic rules and symbols are established and, based on these, the student is asked to prepare a series of designs starting with simple one or two step problems and advancing to more complicated steps. Some problems may have alternative answers and then points may be awarded with the most given to the simplest solution.

The reader will note the similarity of systems games to programmed instruction: both are based on careful sequencing. But then, all teaching could be improved by careful sequencing of material. The difference lies chiefly in the competition which provides "fun" or motivation. This dimension of competition also adds a dimension of simulation since the real world is highly competitive.

Dostal, J. "Shorthand Games". *The Balance Sheet*. 1973/1974, 55, pp. 165-7.

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Games

STUDENT CHARACTERISTICS:

Withdrawal and frustration (does not like to get involved.) Needs immediate gratification for retention. Needs recognition. Needs working with others.

ACTIVITY DESCRIPTION:

Games are a teaching method designed to combine learning activities, mainly recall and discovery learning with an increment of competition. They are a motivational device which stimulates student's interest and good retention. They can be developed and applied to many subject areas. They provide effective learning experiences while taking away the drudgery of reading. Many games may use a partner or team working together for a common goal: this cooperation provides a socializing environment that helps the integration and acceptance of disadvantaged students by non-disadvantaged to take place. To win the game, which is based on competition under specific rules set and agreed upon by teacher and students, each team receives a number of points for efficient manipulation and time achievement ratio's. There are many commercial games available (Klietsch, 1969) which are appropriate to various areas of vocational education. However, games which are invented and constructed by class members will become even more exciting. Harry (1969) suggests the following five steps for selecting and implementing games in instruction:

1. The game must be evaluated in regard to ability and interest of the students.
2. The students should be prepared to play the game.
3. Major concepts or problems of the game have to be discussed to the students.
4. Application and playing the game.
5. Discussing the performed experiences in terms of the real world.

Potential Advantages

1. Provides motivation and interest.
2. Reinforces learning through recall and repetition.
3. Through discovery learning, use of previously acquired information, and increased reaction time from competition, reduces time for learning new concepts.

Potential Disadvantages

1. Requires time for selection and preparation.
2. Requires leadership and class management.
3. Games may need to be developed, particularly in technical and industrial areas.

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Classroom Resource and Motivation Center

STUDENT CHARACTERISTICS:

Lack of motivation, lack project ideas, lack concepts of quality.

ACTIVITY DESCRIPTION:

The instructor may set up the resource center in the classroom, laboratory, or shop. The resource center should be equipped with various textbooks, reference books, manuals, professional journals, magazines, brochures, and other printed materials appropriate to the subject matter area. When possible, display a selected number of student's projects, from previous classes. In addition, articles and essays of special interest written by the students can be arranged on a wall, or a bulletin board.

The students should be directly involved in organizing and selecting the items for the resource center. The teacher should encourage, remind, and/or show the students the proper way of utilizing the materials.

Potential Advantages

1. It will encourage students to know more about the subject matter.
2. It will show the importance of resources for understanding or solving a problem.
3. Access to a resource center will motivate them to work harder for completing a project, or paper worthy of being displayed.
4. Involvement in a resource center will provide a sense of responsibility.
5. Saves time for teacher and student when resources are needed.

Potential Disadvantages

1. It is additional responsibility for teachers.
2. Requires staff time.
3. Requires space.

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Using A Video-Tape Recorder or Movie Camera

STUDENT CHARACTERISTICS:

Students who show an inability to, and lack of interest in achieving specific goals. They are unorganized, and lack initiative.

ACTIVITY DESCRIPTION:

One of the best techniques by which a student may learn or remember a skill, concept, or an ideal is to tell or show someone else. The instructor should help and encourage his/her students to use a video tape camera to tape each others performance at various tasks. A video tape made by a group of students can be a dynamic exciting, and satisfying learning experience that could result in many desirable changes. When combined with a project, the activity becomes a discovery learning situation with a product that publicizes the students' accomplishments. The product may also be used for instructional purposes for later classes. For example, a group of students may be asked to produce a video tape on the construction industry to be used for career orientation. The process would call for the students to investigate the various careers involved in construction, local construction sites, prepare a script, make the video tape or film and edit and title it.

The teacher must explain the video tape recorder, its parts, functions, and how to use and care for it. The students should be allowed to use their own imagination, and creativity for preparation and presentation. In order for the students to have immediate feedback, to review, and evaluate their own activities for self-correction, the video tape recorder can be a great help. In order to encourage students to use their maximum capabilities it may be better to ask them to prepare their total plans in advance, and obtain the instructor's approval.

Potential Advantages

1. Motivates the disadvantaged student by allowing him/her to observe himself/herself on T.V.
2. The observation will maximize their interest, and encourage them to continue and achieve their objectives.
3. By hearing and observing themselves, the students will become aware of their strengths and weaknesses.
4. This method will enable the disadvantaged student to judge his/her own behavior and be able to correct it for improvement.

Potential Disadvantages

1. Requires special equipment.
2. Requires a qualified and experienced instructor.
3. Video tape or film may be costly.

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Using A Tape Recorder

STUDENT CHARACTERISTICS:

Slow reader, lack of academic motivation, lack of confidence.

ACTIVITY DESCRIPTION:

Tape recorders have unlimited possibilities and can be utilized by teachers and/or students for the purpose of delivery, self-evaluation, and motivation. For the disadvantaged students who are slow readers, the tape recorder can be a most efficient and enjoyable device for getting information. This application is most useful where reading is not a significant part of the job performance. There are several ways in which this device can be used:

1. An instructor realizes that the explanation of a particular idea or concept, which is very important, is going to be hard for some students to understand. He/she would set up a tape recorder in a corner of the classroom, or shop to record all the discussions. This taped information can be used as a review for those students who were absent or for the disadvantaged students who need a second or third chance in order to grasp and retain the various facets of the concept.

2. If the use of the tape recorder has novelty value, it can also be used as a motivational device which would encourage disadvantaged students to use their maximum capabilities. By using tape recorders students will listen to themselves explaining certain techniques or concepts, and thus improve their verbalization abilities:
   a. Comparing with other tapes or speeches.
   b. Coaching.

3. A teacher or a teacher's aide can tape the materials (text) to be read in advance. The students with special learning needs (slow reader) can be allowed to listen to the tape as he/she follows along in the text.

4. Another excellent way the tape recorder may be used is as a form of student self-evaluation or testing. Often limited or low reading ability keeps students from doing well on a test. Record each question on tape with a long enough pause after each for the student to answer. The student can replay the questions as often as necessary. Make the answers to the questions available on the other side of the tape or on a separate tape. With each answer give an explanation for it and possibly another resource to refer for further explanation if the student is still confused. The immediate feedback is most beneficial to disadvantaged students.

Potential Advantages

1. Allows students to hear themselves.
2. Motivates students to work harder.
3. Helps students to judge his/her own performance.

4. Helps students to understand the subject being discussed.
5. Increases student's vocabulary.

Potential Disadvantages

1. It requires more time than traditional methods.
2. Presence of the equipment may distract the others.

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Programmed Instruction

STUDENT CHARACTERISTICS:

Student needs immediate and frequent successes. Student with mixed academic background. Student has low academic motivation and needs to be rewarded for each correct response.

ACTIVITY DESCRIPTION:

A means by which information (subject matter) is introduced to the student in a small detail or segment at a time, to drill the basic skills and techniques. Each segment of information contains a highly specific idea. This method allows students to review the questions which are directly related to the idea being studied and have a chance to respond to it. When utilizing the branch program, the student will proceed to the next question only after he/she has made the correct response. If the student makes an incorrect response, he/she is branched to remedial information and then returns to the same question.

Potential Advantages

1. This method provides immediate feedback.
2. Student will progress at his/her own rate.
3. Frees the instructor for giving additional time for individualized instruction, counseling, etc.
4. Does not require advance planning.

Potential Disadvantages

1. Because students are on their own they do not benefit from discussion or interaction with others.
2. Good programmed instructions are costly.
3. May be very hard to find a good programmed instruction in vocational areas.
4. Depends largely on reading skills of students.

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This activity was taken from *A Handbook For Developing Vocational Programs and Services For Disadvantaged Students.* The Handbook was developed pursuant to a contract with the Department of Adult, Vocational and Technical Education, Illinois Office of Education (Contract RDD-B5-113).

Dr. Lawrence Weisman, Southern Illinois University, served as the Project Director for the *Handbook.*

Team Teaching

STUDENT CHARACTERISTICS:

Students who need exposure to other staff for academic motivation.

ACTIVITY DESCRIPTION:

Team teaching is a joint teaching effort which utilizes the best of the various resources in a department or school. Through this method, teachers will have a chance to share their special talents and interests to the best advantage. Any form of teaching in which two or more teachers, regularly and purposefully, share responsibility for planning, presentation, and evaluation of lessons prepared for the same group of students.

Potential Advantages

1. Each instructor can be a specialist.
2. Teachers will have more time for planning, preparation, and follow-up.
3. Student will become acquainted with other teachers.
4. Best method for cooperative courses.

Potential Disadvantages

1. Requires cooperation and coordination among teachers.
2. Instruction from different individuals may be confusing to students.

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Role Playing

STUDENT CHARACTERISTICS:

Students who need self-confidence and can be motivated by peer group. Students who like creative experiences.

ACTIVITY DESCRIPTION:

Unrehearsed and spontaneous dramatization of an idea or issue established by the teacher. It should be structured by guidelines and "incident" instructions so that essential concepts are covered. The action comes directly from the student's creative use of his own experience. Role playing helps students learn to apply principles and observe reactions.

Potential Advantages

1. Requires students to focus upon the personality and motives of the role being played.
2. Provides the student with a chance to utilize his/her creativeness.
3. Provides immediate feedback.
4. Allows the student to make decisions.

Potential Disadvantages

1. Requires advance preparation.
2. The instructor must be familiar with this method.

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Demonstration

STUDENT CHARACTERISTICS:

Student likes to have physical proof of the given fact. Instruction without "show and tell" will not motivate him/her academically.

ACTIVITY DESCRIPTION:

Demonstration is a method in which a teacher or a student shows and explains how an operation or a task is performed.

When To Use A Demonstration

1. To teach principles, theories, new ideas, and to illustrate terms.
2. To show use of tools and/or equipment.
3. To show skills—"I show how—you do later."
4. To introduce new techniques or products.
5. To set standards for procedures, work habits, or products.

Potential Advantages

1. Can be used with a group or on a one-to-one basis.
2. Attracts and holds attention.
3. Is easily understood—involves many senses.
4. A demonstration is convincing.
5. Teaches both theory and practical knowledge.

Potential Disadvantages

1. Takes skill to do well.
2. Is restricted to certain kinds of teaching.
3. Can be expensive.
4. Is time consuming to prepare.
5. May lack audience participation.

THE DEMONSTRATION METHOD

PREPARATION OF DEMONSTRATION

1. Plan objectives—what you want them to learn from the demonstration.
2. Make sure you know how to do what you'll be demonstrating.
3. Set up an outline of a time and work plan. This one may be helpful.

Equipment Needed	What I'll Do	What I'll Say	Time Allowed

4. Select and assemble equipment in order of use.
5. Prepare as much as possible of the time-consuming tasks ahead of time.
6. Make visuals and handouts, as needed.

7. Plan a good introduction and summary.
8. Rehearse, as needed, to insure easy "flow" to demonstration.
9. Before beginning the demonstration, make sure all needed equipment is available.

PREPARATION OF STUDENTS

1. Arrange seats so all can see you.
2. Allow students to see finished product or samples. If appropriate, to arouse interest.
3. Informally, try to find out how much they know *about the subject.*
4. Ask for any "interesting" experiences on the subject, if time.
5. Remember that non-verbal communication (smile, eye contact) often helps everyone!

GIVING THE DEMONSTRATION

INTRODUCTION SHOULD:

1. Be "attention-getting."
2. Tell them what is to be learned and what to look for in demonstration.
3. Emphasize process to be demonstrated.
4. Point out the importance of the learning experience as related to past and future learning.

SUMMARY

1. Ask students to repeat, throughout demonstration, the important points.
2. Allow for discussion, either during or at end of demonstration.
3. Re-emphasize procedure or other pertinent information.
4. Be sure to clear up any questions and/or problems.
5. If possible show a "finished product."

HINTS

1. Try to keep good eye contact throughout demonstration.
2. Ask questions as you demonstrate to involve students.
3. If you get a student to help, explain exactly what is to be done.
4. Talk slowly, simply, and try to avoid "silence lapses."
5. Use everyday language and explain any terms used.
6. Supplement demonstration with visuals, handouts, samples or whatever will help get point across.
7. Show relationship from one step to the next in demonstration making clear the why and how of each step.
8. Explain what was done in advance.
9. Emphasize dangers involved, if any.
10. Keep area clean so that students can see everything.

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Cooperative Occupational Education

STUDENT CHARACTERISTICS:

Needs economic assistance to continue schooling. Needs certain skills that school can not offer.

ACTIVITY DESCRIPTION:

Cooperative Occupational Education is an instructional program which combines learning experiences gained through regularly supervised employment in the community and related occupational in-school instruction. The employing community serves as a laboratory where students have an opportunity to learn the principles and practices of an occupation in an actual situation. Cooperative occupational education is a general term used to describe various types of co-operative programs specifically designed to prepare youth for occupations in proportion to the distribution of employment and career opportunities. Students gain experiences in responsibility on the job.

Increasingly, school personnel are designing programs with instruction and student employment in one or more of the following five occupational fields: 1. Applied Biological and Agricultural (Cooperative Work Training); 2. Business, Marketing and Management (Contract Programs—Work Experience, Career Exploration); 3. Health (Handicapped); 4. Industrial Oriented (Early School Leaver); and 5. Personal and Public Service (Special Education Programs). Also, team teaching on a regular scheduled basis is being used to increase program efficiency.

Potential Advantages

1. Provides greater relevance of curriculum and instruction.
2. Provides better application of learning.
3. Provides closer relationship with the community.
4. Provides extension of training to additional occupations and students.
5. Provides improved vocational guidance.
6. Provides built-in manpower training control.

Potential Disadvantages

1. Requires curriculum scheduling.
2. Public transportation is not always available.
3. Requires additional responsibility.

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VOCATIONAL AND CAREER EDUCATION SERVICE SERVICES SECTION

Fact Sheet

The Vocational Education Act*

On October 12, 1976, the President signed the Education Amendments of 1976 as enacted by Congress. The Amendments include five titles, of which Title II is Vocational Education. The Education Amendments of 1976 are cited as Pub. L. 94-482.

The new Act is divided into Part A-State Vocational Education Programs, Part B-National Programs (the Commissioner's Discretionary Programs), and Part C-Definitions.

PART A-STATE VOCATIONAL EDUCATION PROGRAMS
Subpart 1. General provisions

Statement of Purpose

The purpose of the Act is to assist States in improving planning in the use of all resources for vocational education and manpower training; to overcome sex discrimination and sex stereotyping in vocational education; to provide part-time employment as a means of enabling youths to continue full-time their vocational training or retraining for persons of all ages who need it.

Sex Bias Personnel

Each State desiring to participate shall assign full-time personnel to assist in reducing sex bias and sex stereotyping in vocational education programs and activities throughout the State. Each State is to reserve $50,000 from the basic grant for these purposes.

Indians

The Commissioner is to reserve funds for contracts for vocational education with Indian tribes and organizations and for programs to be operated by the Bureau of Indian Affairs.

Allocation of Funds

The allotment formula for basic vocational programs is the same as the one contained in the current Act for basic grants. No State is to receive less under this procedure than it received under its VEA allotments for FY 1976. Eighty percent of such sums is available for Subpart 2, and 20 percent for Subpart 3.

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*This material extracted from the Federal Register Vol. 41, No. 218 November 10, 1976.

Five-Year Plan

To be eligible for VEA funding, a State must submit to the Commissioner during FY 1977, and each fifth year thereafter, a five-year State plan. In formulating the plan, the State board is to involve actively a representative of the State agency for secondary education, the State agency for postsecondary vocational education, the State agency for community and junior colleges and the State agency for institutions of higher education. The Board is also to involve a representative of a local school board, of vocational teachers, of local school administrators, of the State Manpower Services Council, of the State agency for comprehensive postsecondary education planning, and of the State advisory council.

The planning process requires at least four meetings during the planning year between the State board and these designated representatives at designated times. If the representatives are not able to agree on the contents of the State plan, the State board is responsible for reaching a final decision. In this event, the State board must include in the plan the recommendations it rejected and the reason for each rejection. Any dissatisfied agency may appeal the State board's decision to the Commissioner. The Commissioner decides whether the State plan in question is "supported by substantial evidence, as shown in the State plan, and will best carry out the purposes of the Act."

Annual Plan

To be eligible for funding, the State must also submit an annual program plan and accountability report. The procedural requirements for developing the five-year plan are also applicable to the one-year plan (although the number of required planning meetings is reduced to three).

Planning Funds and State Administration

In order to develop the five-year and annual plans, there is authorized $25 million annually beginning in FY 1978 to be distributed among the States by the basic grant formula. These funds are also to be used by the State to evaluate the effectiveness of each assisted program and for State administration of VEA-supported programs. "Administration" is defined as those activities necessary for the State for the proper and efficient performance of its duties under the Act, including supervision, but not including ancillary services. The Federal share for State administration is up to 50 percent, except for FY 1978 it is up to 80 percent, and for FY 1979 it is up to 60 percent.

General Application

To be eligible to receive funds, a State must also maintain on file with the Commissioner a general application. This general application includes the assurance that the State will give priority in distributing funds to (1) economically depressed areas and areas which are unable to meet their vocational needs without Federal assistance because of high unemployment rates, and (2) programs which are new to the areas to be served and which meet new and emerging manpower needs. The two most important factors to be used by the State in distributing funds to a local educational agency (LEA) are (1) the relative financial ability of the LEA to provide needed services and (2) the relative concentration of low-income populations within the LEA.

In the case of other eligible recipients, the two most important factors to be used by the State in distributing funds are (1) the recipient's relative financial ability to provide needed services and (2) the relative concentration of students it serves whose education imposes higher than average costs (e.g., handicapped, disadvantaged, bilingual).

State and Local Advisory Councils

Participating States must establish State advisory councils representing at least 20 desingated interests. There must also be appropriate representation by sex, race, ethnicity, and geography on the councils. Members serve for three-year staggered terms and a majority of the members must be non-educators. There is authorized for the operation of State advisory councils $8 million in FY 1978, increasing to $10 million in FY 1981. The Commissioner is to pay each State for the council "an amount equal to reasonable amounts expended" but not less than $75,000 nor more than $200,000. The duties of the State advisory councils are expanded to include identifying manpower as well as vocational needs, commenting on the reports of the State Manpower Services Council, and providing assistance to local advisory councils. (The State Manpower Services Council is given reciprocal responsibility to comment on vocational education needs).

Each LEA and postsecondary institution receiving VEA funds must establish a local advisory council composed of members of the general public to provide advice on job needs and relevancy of courses to those needs.

National Priority Programs

From the amount allotted to each State for the formula grant programs, at least 10 percent of the allotment is to be used to pay 50 percent of the cost of vocational programs for the handicapped; at least 20 percent to pay 50 percent of the cost of the programs for the disadvantaged ("disadvantaged" is defined as persons who have academic or economic handicaps and who require special services in order to succeed in vocational programs under criteria developed by the Commissioner based on objective standards), for persons with limited English-speaking ability, and for stipends for students with acute economic needs which cannot be met under other programs; and at least 15 percent to pay 50 percent of the cost of postsecondary vocational programs. The percentage of the 20 percent setaside for programs for the disadvantaged which goes to persons with limited English-speaking ability is equivalent to the same percentage which persons in the State aged fifteen to twenty-four who have limited English-speaking ability represent to the total population of the State in the same age group.

Maintenance of effort

The combined fiscal effort of both the State education agency (SEA) and the local educational agency (LEA), on a per pupil or on an aggregate expenditure basis, may not decrease from on fiscal year to the next. No payment is to be made to postsecondary education institutions until the analogous requirements are met.

Federal and State Evaluations

The Commissioner is to transmit to each State board annually an analysis of the State's annual plan. The Office of Education's Bureau of Occupational and Adult

Education is to analyze the strengths and weaknesses of programs in at least ten States per fiscal year. These analyses are to be complemented by fiscal audits done in the same States during the same time period. Each State is to evaluate the effectiveness of each funded program within a five-year period. Programs which purport to impart entry level job skills are to be evaluated, according to the extent to which program completers and leavers find employment in related occupations and are considered well-trained by their employers.

Subpart 2-Basic grant

From funds earmarked for this Subpart (80 percent of each State's allotment), the Commissioner is authorized to make grants to States for vocational education programs, workstudy programs, cooperative vocational programs, energy education programs, construction of area vocational education facilities, support of full-time personnel to eliminate sex bias, stipends for students who have acute economic needs which cannot be met by other programs, placement services for students whose needs cannot be met by other programs, industrial arts programs, support services for women who enter programs designed to prepare individuals for jobs traditionally limited to men, day-care services for children of persons enrolled in vocational programs, and construction and operation of residential vocational schools.

Subpart 3-Program improvement and supportive services

From funds earmarked for this Subpart (20 percent of each State's allotment), the Commissioner makes grants to States for program improvement and supportive services which States may use for any of the following vocational education programs:

(a) Research programs; (b) exemplary and innovative programs; (c) curriculum development programs; (d) vocational guidance and counceling programs; (e) vocational education personnel training programs; and (f) grants to assist in overcoming sex bias.

Research programs (section 131 (a)) are to be operated by State research coordination units or are to be conducted by contracts awarded by those units. No research contract can be made "unless the applicant can demonstrate a reasonable probability that the contract will result in improved teaching techniques or curriculum materials that will be used in a substantial number of classrooms or other learning situations within five years after the termination date of such contract." The contractors' efforts must be focused on comprehensive program improvement through applied vocational research, experimental programs to test effectiveness of research findings, improved curriculum materials, projects in the development of new careers, and dissemination of the results of these activities.

The exemplary and innovative programs (section 132 (a)) supported must be part of these comprehensive plans. Each of these programs is to give priority to reducing sex stereotyping in vocational education. The annual plan covering the final year of support by a State for any exemplary program must indicate the proposed disposition of the project following the cessation of Federal support and the means for continued support of successful projects.

A State may not contract with an applicant for a curriculum development project (section 133 (a)) "unless the applicant can demonstrate a reasonable probability that the contract will result in improved teaching techniques or curriculum materials that will be used in a substantial number of classrooms or other learning situations within five years after the termination of such contract." The Federal share for curriculum projects is 100 percent.

Not less than 20 percent of Subpart 3 funds is to be used for guidance and counseling services, which must include initiation and improvement of counseling services, counseling leading to greater understanding of educational and vocational options for both sexes, provision of placement and follow-up services for vocational and non-vocational program students, training to help overcome sex-biased counseling, counseling in correctional institutions, counseling for persons of limited English-speaking ability, resource centers for out-of-school individuals, and leadership for guidance and counseling.

Subpart 4-Special programs for the disadvantaged

There is authorized $35 million in FY 1978, increasing to $50 million in FY 1982, for grants to States for special programs for the disadvantaged in areas of high youth unemployment and school dropouts. The funds are distributed by the basic State grant formula. Projects are to receive 100 percent Federal support.

Subpart 5-Consumer and homemaking education

There is authorized $55 million for FY 1978, increasing to $80 million in FY 1982, for consumer and homemaking programs. The Federal share is 50 percent, except in economically depressed areas where the Federal share is 90 percent. One-third of the separate authorization is for these economically depressed areas. Grants may be used for (a) educational programs that encourage males and females to prepare for combining homemaking and wage earning roles, develope curriculum materials which encourage elimination of sex stereotyping, give greater consideration to needs in economically depressed areas, encourage outreach programs, prepare persons for the homemaker role, and emphasize consumer, nutrition, and parenthood education, and (b) for ancillary services.

PART B-NATIONAL PROGRAMS

Subpart 2-Programs of national significance

Program Improvement

From the 5 percent of the basic grant reserved for the Commissioner for this Subpart, the Commissioner may fund up to 100 percent of the cost of the following types of activities if they are found to be of national significance:

(a) Research projects; (b) exemplary and innovative projects; (c) vocational curriculum development projects; (d) vocational guidance and counseling programs; (e) vocational education personnel training programs; and (f) grants to assit in overcoming sex bias.

A grant applicant must be able to demonstrate a reasonable probability that the "grant will result in improved teaching techniques or curriculum materials that

will be used in a substantial number of classrooms or other learning situations within five years after the termination date of such grant." Contractors for exemplary and innovative projects must provide for appropriate participation by nonprofit private school children. Activities funded shall include contracts to convert job preparation by the armed services to curriculums usable by the schools.

Training and Development Programs for Vocational Education Personnel

From the 5 percent reserved for Subpart 2, the Commissioner is to provide opportunities for full-time advanced study of vocational education, opportunities for certified teachers in other fields to become vocational educators, and opportunities for persons in industry with skills in fields for which there is a need for vocational educators to be so trained. Persons having two years of experience in vocational education or in comparable types of situations and who have a baccalaureate degree may receive awards for use at the graduate level, in approved institutions of higher education. Persons certified to teach in any field who have applicable vocational skills or persons employed in industry with similar skills can receive awards for use in approved teacher-training institutions. Award recipients in the first category can receive stipends for three years, award recipients in the second category for two years. The training institution receives up to $4,500 an academic year and up to $1,000 a summer term per award recipient.

Subpart 3-Bilingual vocational trainging

There is authorized $60 million for FY 1978, increasing to $80 million for FY 1982, for bilingual vocational training programs. Sixty-five percent of this amount is earmarked to conduct bilingual vocational training programs; 25 percent is earmarked for preservice and inservice programs to train instructors for bilingual vocational training programs; and 10 percent is earmarked for grants for the development of instructional materials, research, demonstration activities, and related teacher-training activities in the area of bilingual vocational training.

Subpart 4-Emergency assistance for remodeling and renovation of vocational education facilities.

There is authorized $35 million in FY 1978, increasing to $50 million in FY 1982, for grants to States for special programs for the disadvantaged in areas of high youth unemployment and school dropouts. The funds are distributed by the basic State grant formula. Projects are to receive 100 percent Federal support.

The Education for All Handicapped Children Act

P.L. 94-142

Prepared by

The Council for Exceptional Children

for

The Bureau of Education for the Handicapped
US Office of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

1976

State Board of Education
Illinois Office of Education

Joseph M. Cronin
State Superintendent of Education

"It is the purpose of this Act to assure that all handicapped children have available to them . . . a free appropriate public education which emphasizes special education and related services designed to meet their unique needs, to assure that the rights of handicapped children and their parents or guardians are protected, to assist States and localities to provide for the education of all handicapped children and to assess and assure the effectiveness of efforts to educate handicapped children."

Public Law 94-142 expands and revises Part B of the Education of the Handicapped Act (EHA). The other components of EHA are essentially unchanged and continue in operation. All programs under the EHA, including the P.L. 94-142 revision of Part B, are administered through the Bureau of Education for the Handicapped, US Office of Education, Department of Health, Education, and Welfare.

The Aid to States Branch of the Bureau of Education for the Handicapped administers Part B, the State grant program.

"The Congress finds that there are more than eight million handicapped children in the United States today."

This estimate includes children 3 to 21 years of age who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired, or children with specific learning disabilities, who by reason thereof require special education and related services.

"The Congress finds that the special education needs of such children are not being fully met."

The law seeks to guarantee the availability of a free appropriate public education to all handicapped children.

Special education means specially designed instruction, at no cost to parents or guardians, to meet the unique needs of the handicapped child. This may be classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions.

Related services include transportation and such developmental, corrective, and supportive services as may be needed to help a handicapped child benefit from special education. Examples of related services include speech pathology and audiology, psychological services, physical and occupational therapy, recreation, and medical and counseling services used for diagnostic and evaluation purposes. It also includes the early identification and assessment of handicapping conditions in children.

"The Congress finds that more than half of the handicapped children in the United States do not receive appropriate educational services which would enable them to have full equality of opportunity."

It is impossible to provide appropriate educational services without focusing on the needs of individual children. Recognizing this fact, Congress requires that each child enrolled in a program have an individualized education program, a written statement for each handicapped child, jointly developed by a qualified school official, the child's teacher, and parents or guardian. If possible, the child should also participate. This written program must include a statement of the child's present achievement level, short term and annual goals, an identification of the specific services that will be provided, and an indication of the extent to which the child will be able to participate in the regular school program. Also required is an estimate of how long these services will be provided and an evaluation schedule to check progress and make program revisions.

States must establish procedures to assure, to the maximum extent appropriate, that handicapped children are educated with children who are not handicapped. This means that placement in special classes, separate schools, or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes, with the use of supplementary aids and services, cannot be achieved satisfactorily.

"The Congress finds that one million of the children in the United States are excluded entirely from the public school system and will not go through the educational process with their peers."

The law requires States and localities to establish priorities for providing a free appropriate public education to all handicapped children. The first priority is to children who are not receiving any education. The second priority is to the most severely handicapped children within each disability who are receiving an inadequate education. These priorities must be implemented by October 1, 1977.

A free appropriate public education must be available for all handicapped children between the ages of 3 and 18 within the State not later than September 1, 1978, and for all handicapped children between the ages of 3 and 21, not later than September 1, 1970. However, for handicapped children aged 3 through 5 and aged 18 through 21, this clause shall not be applied in any State if its application would be inconsistent with that State's law or practice, or the order of any court, respecting public education within such age groups in the State.

"The Congress finds that there are many handicapped children throughout the United States participating in regular school programs whose handicaps prevent them from having a successful educational experience because their handicaps are undetected."

In order to qualify for assistance, each State must set forth in detail the policies and procedures that the State intends to use to assure that all handicapped children residing in the State, regardless of the severity of their handicap, are identified, located, and evaluated. States must document which of these children are currently receiving needed special education and related services and which children are not currently receiving the needed programs. Details of these procedures must be set forth in the State plan.

"The Congress finds that because of the lack of adequate services within the public school system, families are often forced to find services outside the public school system, often at a great distance from their residence and at their own expense."

P.L. 94–142 guarantees a FREE APPROPRIATE PUBLIC education to all handicapped children. This means that special education and related services must be made available at public expense, under public supervision and direction, and without charge. The program must meet the standards of the State education agency. The public system must provide appropriate programs. An individualized education program must be provided for each child.

If a local school district is unable to provide the needed services because it is too small, the State may require districts to submit a consolidated application.

If a State or local education agency places a child in a private facility as a means of carrying out public policy, and if that facility meets all the requirements of this Act, then funds available under this Act may be used to provide special education and related services to these children.

"The Congress finds that developments in the training of teachers and in diagnostic and instructional procedures and methods have advanced to the point that, given appropriate funding, State and local education agencies can and will provide effective special education and related services to meet the needs of handicapped children."

A description of programs and procedures for implementing a comprehensive system of personnel development must be included in each State plan and local application. The law specifies that the training should be for both general and special education teachers and support personnel. The descriptions of the inservice programs must include detailed procedures to assure that all personnel are appropriately and adequately trained.

The Act also requires States to disseminate to teachers and administrators of programs for handicapped children significant information derived from educational research or demonstration projects.

The US Commissioner of Education is responsible for providing short term training programs and institutes when necessary.

"The Congress finds that State and local education agencies have a responsibility to provide education for all handicapped children, but present financial resources are inadequate to meet the special educational needs of handicapped children."

Prior to October 1, 1977, allocations continue to be based on the Mathias formula which was established under P.L. 93–380. This formula multiplies the number of children in the State between the ages of 3 and 21 by $8.75.

Starting with fiscal year 1978, however, state allocations will be calculated by a radically different formula. The new formula again involves the 3 through 21 age range, but counts only those youngsters who are handicapped and who are receiving special education. Thus, the more handicapped children the State sets out to educate, the greater the amount the State will be entitled to receive. In order to determine the amount of the State allocation, the number of children is multiplied by a specified percentage of the national average per pupil expenditure per child. The percent factor increases each year until it reaches a maximum of 40% in October 1981.

P.L. 94–142 carries a special incentive grant aimed at encouraging the States to provide special education and related services to their preschool handicapped children. Each handicapped child aged 3 through 5 who is served will generate a special additional entitlement. States must apply for these grants separately, however.

"The Congress finds that it is in the national interest that the Federal government assist State and local efforts to provide programs to meet the educational needs of handicapped children in order to assure equal protection of the law."

P.L. 94–142 stipulates that Federal money may only be used for the additional costs involved in educating handicapped children. A given school district must assure that a sum of State and local funds equal to the average annual per pupil expenditure for all children being served in the district is available for each handicapped child before Federal funds can be used.

If handicapped children are counted under P.L. 89–313, which provides supplemental educational assistance for handicapped children in State operated or supported schools, they may not be counted again for entitlement from P.L. 94–142.

Currently all allocations go to the State education agencies which are in turn responsible for distributing the money to local programs on a grant by grant basis. Beginning in October 1977, 50% of the funds each State receives must be passed through directly to local education agencies. In October 1978 and thereafter, 75% of the funds will go directly to local school districts.

The pass-through of funds to local districts depends on compliance with the guarantees set forth in the State plan and local applications.

TIMETABLE

Many provisions and requirements of the original Education for the Handicapped Act and its subsequent amendments continue in effect under the 1975 amendment, e.g., that handicapped children be educated with nonhandicapped children, that testing be nondiscriminatory, and that due process procedures must be in effect.

New provisions, written into P.L. 94–142 go into effect according to the following timetable.

1977

October 1. The first allocation will be made using the new formula based on a percentage of the National average per pupil expenditure.

50% of the allocation goes directly to eligible local education agencies.

Individual educational programs must be developed for each handicapped child.

State education agencies must be responsible for the general supervision of the education of all children receiving special education.

1978

September 1. A free appropriate public education must be guaranteed for all handicapped children ages 3 through 18.*

October 1. 75% of the allocation goes directly to local education agencies.

1980

September 1. A free appropriate public education must be guaranteed for all handicapped children ages 3 through 21.*

* This does not apply for ages 3 through 5 and 18 through 21 in any State where the provision would be inconsistent with that State's law or practice or the order of any court.

PROTECTING THE RIGHTS OF HANDICAPPED CHILDREN AND THEIR PARENTS

P.L. 94–142 makes a number of critical stipulations that must be adhered to by both the State and its localities. Most of these provisions previously existed in P.L. 93–380 but have been further refined in P.L. 94–142.

Policies and procedures must be in effect to protect the confidentiality of personally identifiable information.

Handicapped children must be educated with nonhandicapped children to the maximum extent appropriate.

Nondiscriminatory testing practices must be in effect.

Individualized educational programs must be written for each child and must be reviewed at least once a year (effective October 1977).

Due process procedures must be guaranteed with respect to all matters of identification, evaluation, and placement.

Parents have the right to examine records pertaining to identification, evaluation, and placement and to obtain an independent educational evaluation.

A surrogate parent will be assigned to any child whose parents are unknown or unavailable or any child who is a ward of the State.

Parents must receive a written notice prior to any change in placement or evaluation of a child.

Notice must be in the parents' native language (effective October, 1977).

PUBLIC INVOLVEMENT

Each state must have an advisory panel appointed by the Governor or other authorized official. This panel advises the State education agency on unmet needs, comments publicly on rules and regulations, and assists the State in developing and reporting such data and evaluations as may be needed by the US Commissioner of Education.

If the Commissioner withholds funds because of alleged failure on the part of an education agency to comply with the provisions of the Act, the action must be brought to the attention of the public by means of a public notice.

State Plan

The State must assure that procedures are established for consultation with concerned individuals including handicapped citizens and parents or guardians of handicapped children.

Each State is required to have a State plan on file with the US Commissioner of Education. The plan must be amended annually. Thirty days before the amended plan is submitted, it must be made available to parents, guardians, and other members of the general public.

There must be public hearings prior to the adaption of policies, programs, and procedures proposed in the amended State plan.

Local Applications

Local education agencies must also make their applications, evaluations, and reports available to the public.

RESOURCES

P.L. 94–142—The Education for All Handicapped Children Act of 1975. A set of three filmstrips with three audio cassettes; scripts for each filmstrip; a copy of the law; and a question and answer document. This package was developed to help educators, parents, and the general public better understand the law. Available on loan from your State Education Agency, or may be purchased from The Council for Exceptional Children, 1920 Association Drive, Reston, Virginia, 22091. Price: $50.00.

An Analysis of P.L. 94–142, National Association of State Directors of Special Education. This document is a section by section analysis of the law, including a comparison of P.L. 94–142 with previous law and implications for State and local responsibilities. Available from NASDSE, Suite 610-E, NEA Building, 1201 16th Street N.W., Washington, D.C., 20036. Price $2.50.

Public Policy and the Education of Exceptional Children. Weintraub, F.J., Abeson, A., Ballard, J., & LaVor M.L. (Eds). The most comprehensive publication available on Federal and State laws and policies affecting the education of handicapped and gifted children. Includes a reprint of P.L. 94–142 as well as portions of other laws governing exceptional child education. Available from The Council for Exceptional Children, 1920 Association Drive, Reston, Virginia, 22091. Price $13.95.

A Bill of Rights for the Handicapped. Leroy V. Goodman. This three page article, which appeared in the July 1976 issue of *American Education,* provides an excellent summary of P.L. 94–142. Reprints are available, free of charge while the supply lasts, from the National Advisory Committee on the Handicapped, Bureau of Education for the Handicapped, US Office of Education, Room 2604, ROB #3, 400 Maryland Avenue, S.W., Washington, D.C. 20202.

SECTION 504 OF THE REHABILITATION ACT OF 1973

FACT SHEET

Handicapped Persons

Rights Under Federal Law

July, 1977

U.S. Department of Health, Education, and Welfare
Office of the Secretary
Office for Civil Rights
Washington, D.C. 20201

Reprinted by: **Illinois Network of Exemplary Occupational Education Programs For Handicapped and Disadvantaged Students**

State Board of Education
Illinois Office of Education
Joseph M. Cronin
State Superintendent of Education

"Today I am issuing a regulation, pursuant to Section 504 of the Rehabilitation Act of 1973, that will open a new world of equal opportunity for more than 35 million handicapped Americans—the blind, the deaf, persons confined to wheelchairs, the mentally ill or retarded, and those with other handicaps.

"The 504 Regulation attacks the discrimination, the demeaning practices and the injustices that have afflicted the nation's handicapped citizens. It reflects the recognition of the Congress that most handicapped persons can lead proud and productive lives, despite their disabilities. It will usher in a new era of equality for handicapped individuals in which unfair barriers to self-sufficiency and decent treatment will begin to fall before the force of law."

Joseph A. Califano, Jr.
Secretary of Health, Education and Welfare
April 28, 1977

THE REHABILITATION ACT OF 1973—SECTION 504

In September 1973, Congress passed a law that prohibits discrimination on the basis of physical or mental handicap in every federally assisted program or activity in the country. That law is Section 504 of the Rehabilitation Act.

Section 504 states that: "No otherwise qualified handicapped individual in the United States . . . shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

In April 1977, a final Section 504 regulation was issued for all recipients of funds from HEW, including elementary and secondary schools, colleges, hospitals, social service agencies, and in some instances, doctors. The Section 504 regulation will effect fundamental changes in many facets of American life, in the actions and attitudes of institutions and individuals toward handicapped persons.

The term handicap includes such diseases or conditions as speech, hearing, visual and orthopedic impairments, cerebral palsy, epilepsy, muscular dystrophy, multiple sclerosis, cancer, diabetes, heart disease, mental retardation, emotional illness, and specific learning disabilities such as perceptual handicaps, dyslexia, minimal brain dysfunction and developmental aphasia.

In accordance with a formal opinion of the Attorney General of the United States, alcohol and drug addicts are also considered handicapped individuals. Physical or mental impairments do not constitute a handicap, however, unless they are severe enough to substantially limit one or more of the major life functions.

PROGRAM ACCESSIBILITY

The regulation provides that programs must be accessible to handicapped persons. It does not require that every building or part of a building must be accessible but the program as a whole must be accessible. Structural changes to make the program accessible must be made only if alternatives, such as reassignment of classes or home visits, are not possible. The intent is to make all benefits or services available to handicapped persons as soon as possible. Institutions are given three years to complete structural changes to their physical plants; nonstructural changes must be made in 60 days.

In meeting the objective of program accessibility, a recipient must take care not to isolate or concentrate handicapped persons in settings away from nonhandicapped program participants.

All buildings for which site clearance has begun after June 3, 1977, must be designed and constructed to be accessible to handicapped persons from the start. The design standards of the American National Standards Institute (ANSI) can be used to determine minimal requirements for accessibility.

PRESCHOOL, ELEMENTARY AND SECONDARY, AND ADULT EDUCATION

The basic requirements are:

—That no handicapped child can be excluded from a public education because of disability; this requirement is effective immediately.

—That every handicapped child is entitled to a free appropriate education, regardless of the nature or severity of handicap; complete compliance with this requirement must be achieved by September 1, 1978.

—That handicapped students must not be segregated in public schools but must be educated with nonhandicapped students to the maximum extent appropriate to their needs.

—That evaluation procedures be improved in order to avoid the inappropriate education that results from misclassification.

—That procedural safeguards be established so parents and guardians can object to evaluation and placement decisions made with respect to their children.

—That state or local educational agencies locate and identify unserved handicapped children.

An appropriate education can be afforded by many different methods, including use of regular classes with or without aids, depending on need; in private or public homes or institutions, or through combinations of such methods so long as handicapped and nonhandicapped students are educated together to the maximum extent possible. The result should be to provide the education program best suited to the individual needs of handicapped people.

It should be emphasized that where a handicapped student is so disruptive that education of other students in the classroom is impaired, the student can be reassigned. A common sense rule of reason applies in such cases.

The regulation provides that school systems bear special responsibilities, in some instances, for transportation of handicapped people to and from education programs. Where placement in a public or private residential program is necessary, the school district has responsibility for the costs of the program, nonmedical care, room and board, and transportation.

POSTSECONDARY EDUCATION

In colleges and other postsecondary institutions, recruitment, admissions, and the treatment of students must be free of discrimination.

Quotas for admission of handicapped persons are ruled out, as are preadmission inquiries as to whether an applicant is handicapped. However, voluntary postadmission inquiries may be made in advance of enrollment concerning handicapping conditions to enable an institution to provide necessary services.

Higher education institutions must assure accessibility of programs and activities to handicapped students and employees. Architectural barriers must be removed where the program is not made accessible by other means. A university, however, is not expected to make all its classroom buildings accessible in order to comply with program accessibility standards. It may have to undertake some alterations, or it may reschedule classes to accessible buildings, or take other steps to open the program to handicapped students. Handicapped persons should have the same options available to others in selecting courses.

Other obligations of the institutions include:

—Tests which a college or university uses or relies upon, including standardized admissions tests, must not discriminate against handicapped persons. Tests must be selected and administered so that the test results of students with impaired sensory, manual or speaking skills are not distorted unfairly but measure the student's aptitude or achievement level, and not his or her disability.

—Students with impaired sensory, manual or speaking skills, must be provided auxiliary aids although this may often be done by informing them of resources provided by the government or charitable organizations.

—Colleges and universities must also make reasonable modifications in academic requirements, where necessary, to ensure full educational opportunity for handicapped students. Such modifications may incude the extension of time for completing degree requirements, adaptation of the manner in which specific courses are conducted, and elimination of rules prohibiting handicapped persons from having tape recorders in class or dog guides on campus.

—Physical education must be provided in a nondiscriminatory manner and handicapped students cannot be unnecessarily segregated in physical education classes.

—Infirmary services must be provided handicapped students on a par with those offered others.

HEALTH, WELFARE AND SOCIAL SERVICES

The provisions for accessibility and reasonable accommodation that apply to other programs also apply to health, welfare, and social service institutions. Benefits and services may not be denied on the basis of handicap.

Providers of these services may find it necessary to remove barriers, make house calls, or meet handicapped people in offices that are accessible. Institutions with 15 or more employees must also provide auxiliary aids to their clients. Further, health and welfare providers must ensure that persons with impaired sensory or speaking skills are provided effective notice concerning the provision of benefits, waivers of rights and consent to treatment. Hospitals must make special arrangements for handling deaf patients.

Health, welfare and social services for handicapped people must be equal in quality to those in the institution's overall program, and equitable standards of eligibility are required.

GENERAL EMPLOYMENT PROVISIONS

Employers may not refuse to hire or promote handicapped persons solely because of their disability. Reasonable accommodation may also have to be made to the person's handicap, where needed.

For employees as well as students or patients, accessibility is a primary necessity. Examples of reasonable accommodations might include a cassette recorder for a blind employee, changes in the physical location of the task to be performed, or similar actions. Under certain circumstances, an employer might find it necessary to make more extensive changes. The size and type of employing agency and the cost involved are considerations in determining undue hardship.

Failure to employ or promote an employee who is unqualified or who cannot be helped by reasonable accommodation is not discrimination. However, an employer may not reject an applicant simply because reasonable accommodation is necessary.

Pre-employment physical examinations cannot be required and pre-employment inquiry cannot be made about a person's handicapping condition although employers may ask about an applicant's ability to perform job-related functions. Employers may make an offer of employment conditional on a medical examination as long as the examination is required of all employees and no one is disqualified on the basis of a physical condition that is not job-related.

ADDICTION

As noted earlier, drug and alcohol addiction are covered under the Section 504 regulation. The regulation, however, protects rights of "qualified" handicapped people and this term implies limitations on what is expected of employers or institutions providing services. In regard to addiction, an employer is not required to change performance or behavioral standards regarding past work performance, or disruptive, abusive or dangerous behavior, even if these actions stem from a person's alcoholism or drug addiction.

Nothing in the regulation prohibits a school from applying its rules concerning use of drugs and alcohol to students with addiction problems just as it would to other students, as long as the rules apply equally to all students. Schools or colleges, like other employers, may apply their standards of employment performance to alcohol and drug problems as they would apply them in any other case.

HOW TO FILE A COMPLAINT OF DISCRIMINATION

Any person who has a complaint that discrimination on the basis of physical or mental handicap exists in any program funded by HEW may notify the Office for Civil Rights. A complaint should be filed by letter to: Director, Office for Civil Rights, Department of Health, Education, and Welfare, Washington, D.C. 20201.

Letters of complaint should explain: who was discriminated against; in what way; by whom or what institution; when the discrimination took place; who was harmed by the discriminatory act; who can be contacted for further information; the name, address, and telephone number of the complainant; and as much background information as possible. These are suggestions, not requirements. However, the Office for Civil Rights can move more efficiently if it is well-informed. Citizens may ask the Office for Civil Rights for help in writing a complaint.

IMPORTANT DATES FOR SECTION 504 COMPLIANCE

April 28, 1977	Final regulation signed by HEW Secretary Joseph A. Califano, Jr.
May 4, 1977	Final regulation published in the *Federal Register*.
June 3, 1977	Regulation in effect.
July 5, 1977	Deadline for return of Assurance of Compliance (Form HEW 641) from all institutions receiving financial assistance from HEW.
August 2, 1977	Deadline for programs or activities in existing facilities to be made accessible (where structural changes are not required). See paragraph 84.22 (d) in regulation.
September 2, 1977	HEW fund recipients that employ 15 or more employees shall, by this date, make initial notification that they do not discriminate on the basis of handicap in accordance with paragraph 84.8 (a) of the regulation.
December 2, 1977	In the event that structural changes in existing facilities are necessary to make programs accessible, recipients of HEW funds shall, by this date, develop a transition plan outlining the steps needed to complete these changes. A copy of the transition plan would be made available for public inspection. See paragraph 84.22 (e) of the regulation.
June 2, 1978	Deadline for HEW recipients to complete a self evaluation process in consultation with handicapped individuals and organizations. See paragraph 84.6 (c) of the regulation.
September 1, 1978	Deadline for public elementary and secondary schools to provide to each qualified handicapped student a free appropriate education in accordance with paragraph 84.33 (d) of the final regulation.
June 2, 1980	Deadline for structural changes to be made in existing facilities where necessary to achieve program accessibility.

Public Law 93-112
93rd Congress, H.R. 8070
September 26, 1973

REHABILITATION ACT OF 1973

NONDISCRIMINATION UNDER FEDERAL GRANTS

Sec. 504. No otherwise qualified handicapped individual in the United States, as defined in section 7 (6), shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

Sec. 7. For the purposes of this Act:

(6) The term "handicapped individual" means any individual who (A) has a physical or mental disability which for such individual constitutes or results in a substantial handicap to employment and (B) can reasonably be expected to benefit in terms of employability from vocational rehabilitation services provided pursuant to titles I and III of this Act.

Public Law 93-516
93rd Congress, H.R. 17503
December 7, 1974

REHABILITATION ACT AMENDMENTS OF 1974

Sec. 111. (a) Section 7 (6) of such Act is amended by adding at the end thereof the following new sentence: "For the purposes of titles IV and V of this Act, such terms meand any person who (A) has a physical or mental impairment which substantially limits one or more of such person's major life activities, (B) has a record of such an impairment, or (C) is regarded as having such an impairment."

SUGGESTED ACCESSIBILITY COMPLIANCE CHECKLIST

Taken from "Into the Mainstream: A Syllabus for a Barrier-Free Environment" Superintendent of Documents, GPO No.: 1976-210 826/5043

	YES	NO
A. PARKING LOTS		
1. Are accessible spaces approximate to the facility?	____	____
a) Are they identified as reserved for use by individuals with physical disabilities?	____	____
2. Are there parking spaces open on one side, allowing room (12 ft. minimum width) for individuals in wheelchairs or on braces and crutches to get in and out onto a level surface?	____	____
a) Do they allow people to get in or out on a level surface?	____	____
3. Is it unnecessary for individuals in wheelchairs or those using braces and crutches to wheel or walk behind parked cars?	____	____
4. Is distribution of spaces for use by the disabled in accordance with the frequency and persistency of parking needs?	____	____
B. WALKS		
1. Are public walks at least 48" wide?	____	____
a) Is the gradient not greater than 5%?	____	____
2. Are walks of a continuing common surface, not interrupted by steps or abrupt changes in level?	____	____
3. Wherever they cross other walks, driveways, or parking lots do walks blend to a common level?	____	____
4. Do walks have a level platform at the top which is (a) at least 5 feet by 5 feet if a door swings out onto the platform or toward the walk, or (b) 3 feet by 5 feet if door doesn't swing onto the platform?	____	____
5. Does the platform extend at least 1 foot beyond each side of the doorway?	____	____
C. RAMPS		
1. Do ramps have a slope no greater than 1 foot rise in 12 feet?	____	____
2. Do ramps have handrails on at least one side?	____	____
a) Are they 32" in height measured from the surfaces of the ramp?	____	____
b) Are the surfaces smooth?	____	____
c) Do they extend 1' beyond the top & bottom of the ramp?	____	____
3. Do ramps have a surface that is nonslip?	____	____
a) Do platforms comply with Questions B4 & B5?	____	____
4. Do ramps have at least 6 feet of straight clearance at the bottom?	____	____
5. Do ramps have level platforms at 30 foot intervals for purposes of rest and safety, and wherever they turn?	____	____
D. ENTRANCES/EXITS		
1. Is at least one primary entrance to each building usable by individuals in wheelchairs? (It is preferable that all or most entrances (exits) should be accessible to, and usable by, individuals in wheelchairs or other forms of physical disability.)	____	____
2. Is at least one entrance usable by individuals in wheelchairs on a level that would make the elevators accessible?	____	____

	YES	NO
E. DOORS AND DOORWAYS		
1. Do doors have a clear opening of no less than 32" when open?	____	____
a) Are they operable by a single effort? Note: Two-leaf doors are not usable by those with disabilities unless they operate by single effort, or unless one of the two leaves meets the 32" width	____	____
2. Are the doors operable with pressure or strength which could reasonably be expected from disabled persons?	____	____
3. Is the floor on the inside and outside of each doorway level for a distance of 5 feet from the door in the direction the door swings?	____	____
a) Does it extend 1' beyond each side of door?	____	____
4. Are sharp inclines and abrupt changes in level avoided at doorsills?	____	____
5. Do door closers allow the use of doors by the physically disabled persons?	____	____
F. STAIRS AND STEPS		
1. Do steps avoid abrupt nosing?	____	____
2. Do stairs have hand rails 32" high as measured from the tread at the face of the riser?	____	____
3. Do stairs have at least one handrail that extends at least 18" beyond the top and bottom step?	____	____
4. Do steps have risers 7 inches or less?	____	____
G. FLOORS		
1. Do floors have a non-slip surface?	____	____
2. Are floors on each story at a common level or connected by a ramp?	____	____
H. REST ROOMS		
1. Is there an appropriate number of toilet rooms for each sex?	____	____
a) Are they accessible to physically handicapped persons?	____	____
b) Are they usable by physically handicapped persons?	____	____
2. Do toilet rooms have turning space 60" x 60" to allow traffic of individuals in wheelchairs?	____	____
3. Do toilet rooms have at least one toilet stall that:	____	____
a) is three feet wide?	____	____
b) is at least 4'8" (preferably 5 feet) deep?	____	____
c) has a door that is 32 inches wide and swings out?	____	____
d) has grab bars on each side, 33" high and parallel to the floor, 1½ inches in diameter, with 1½ inches clearance between rail and wall, fastened secureiy to the wall at the ends and center?	____	____
e) has a width of a least 48" between the wall and the front of the stall entrance?	____	____
f) has water closet with seat 20" from the floor?	____	____
4. Do toilet rooms have lavatories with narrow aprons, which when mounted at standard height are usable by individuals in wheelchairs?	____	____
5. Are drain pipes and hot water pipes covered or insulated?	____	____
6. Are some mirrors and shelves at a height as low as possible and no higher than 40 inches above the floor?	____	____
7. Do toilet rooms for men have wall mounted urinals with the opening of the basin 19" from the floor, or have floor mounted urinals that are level with the main floor of the toilet room?	____	____
8. Do toilet rooms have towel racks mounted no higher than 40" from the floor?	____	____
a) are towel dispensers mounted no higher than 40" from the floor?	____	____
b) are other dispensers mounted no higher than 40" from the floor?	____	____
c) are disposal units mounted no higher than 40" from floor?	____	____
9. Are racks, dispensers and disposal units located to the side of the lavatory rather than directly above?	____	____

	YES	NO
I. WATER FOUNTAINS		
1. Is there an appropriate number of water fountains?	_____	_____
a) Are they accessible to physically handicapped persons?	_____	_____
b) Are they usable by physically handicapped persons?	_____	_____
2. Do water fountains or coolers have up-front spouts and controls?	_____	_____
3. Are they hand operated?	_____	_____
4. Are they hand and foot operated?	_____	_____
5. If coolers are wall mounted, are they hand operated, with basins 36 inches or less from the floor?	_____	_____
6. If there are floor mounted fountains, are spouts no higher than 30 inches?	_____	_____
7. Are these fountains accessible to people in wheelchairs?	_____	_____
J. PUBLIC TELEPHONES		
1. Is there an appropriate number of public telephones accessible to physically handicapped persons?	_____	_____
2. Type: booth _____ wall mount _____	_____	_____
3. Is height of dial from floor 48 inches or less?	_____	_____
4. Is coin slot located 48 inches or less from the floor?	_____	_____
5. a) Are there telephones equipped for persons with hearing disabilities?	_____	_____
b) Are these telephones identified as such?	_____	_____
K. ELEVATORS	_____	_____
1. If more than a 1 story building, are elevators available to physically handicapped?	_____	_____
a) Are they usable by physically handicapped?	_____	_____
2. Are all of the controls 48" or less from floor?	_____	_____
3. Are the buttons labeled with raised (or indented) letters beside them?	_____	_____
4. Are they easy to push or touch sensitive?	_____	_____
5. Is the cab at least 5 feet x 5 feet?	_____	_____
L. CONTROLS		
1. Are switches and controls for light, heat, ventilation, windows draperies, fire alarms, and all similar controls of frequent or essential use, within the reach of individuals in wheelchairs?	_____	_____
M. IDENTIFICATION		
1. Are raised (or recessed) letters or numbers used to identify rooms or offices?	_____	_____
2. Is identification placed on the wall, to the right or left of the door?	_____	_____
a) Are they at a height between 4'6" and 5'6", measured from floor?	_____	_____
3. Are doors not intended for normal use, that might prove dangerous if a blind person were to exit or enter by them, made quickly identifiable to the touch by knurling the door handle or knob?	_____	_____
N. WARNING SIGNALS		
1. Are audible warning signals accompanied by simultaneous visual signals for the benefit of those with hearing or sight disabilities?	_____	_____
O. HAZARDS		
1. When manholes or access panels are open and in use, or when an open excavation exists on a site, when it is approximate to normal pedestrian traffic, are barricades placed on all open sides at least 8' from the hazard, and warning devices installed?	_____	_____
2. Are there no low-hanging door closers that remain within the opening of a doorway, or that protrude hazardously into regular corridors or traffic ways?	_____	_____
3. Are there no low-hanging signs, ceiling lights, fixtures or similar objects that protrude into regular corridors or traffic ways? (A minimum height of 7', measured from floor is recommended)	_____	_____
4. Is lighting on ramps adequate?	_____	_____
5. Are exit signs easily identifiable to all disabled persons?	_____	_____

STAFF DEVELOPMENT/INSERVICE IS MORE LIKE THE FLIGHT OF A BUTTERFLY THAN THE PATH OF A BULLET. THE BUTTERFLY DIRECTS ITS OWN FLIGHT, YET IT IS influenced BY EXTERNAL FORCES. THE BUTTERFLY CORRECTS ITS COURSE BASED ON FEEDBACK AND REACHES ITS DESTINATION ONLY TO BEGIN ANOTHER PHASE OF GROWTH AND A NEW FLIGHT.

Designing Staff Development that meets real needs

Rank the following statements from most important to least important. (1 most important, 5 least important)

_____ Recipients of inservice must be involved in its planning.

_____ There must be organizational incentives (release time, professional growth credit, etc.) for inservice to be effective.

_____ Most educational goals are best achieved through collaborative efforts among groups (vocational educational, special education, academics, fine arts, etc.)

_____ Staff development should focus on new technology and recent research.

_____ Staff development/inservice must aid all staff in discovering their own attitudes and values as well as strengthen their own belief in themselves as teachers.

Pause a minute before you continue. In the space below write a note to yourself. Why did you select the one you did as number 1?

Why is your fifth choice least important?

The primary responsibility for professional growth rests with the individual staff member. Administrators are responsible for providing incentives, support, "the climate" and resources for staff development/inservice. Teachers are responsible for providing incentives, support, "the climate" and resources to promote learning for Handicapped and Disadvantaged students.

Key Questions for effective Inservice/Staff Development

THE END——

What are the desired outcomes for inservice/staff development? Who should have developed them?

How will you know and be sure if staff development is successful?

What attitudes and feelings do you expect people to have?

Should the content be purely cognitive?

Is inservice "targeted" solely at the instructional staff? What about the administrators? Counselors? Ancillary staff?

THE MIDDLE——

Do the methods and procedures promote the desired outcomes? What are the participants actually doing? Are they "doing" during the inservice what you want them to do after the inservice?

How are individual staff members needs met?

How are common group issues worked on together?

What resources are required?

THE CONTINUATION——

What organizational incentives exist for professional growth?

What kind of forums exists for sharing what works?

When should inservice/staff development be mandated from the "top dog?"

What kind of "support systems" exist for staff who want to "try something new" or "change?"

THE BEGINNING——

What do you do when someone is enthusiastic? Are you resentful or supportive?

How do you support initiative, enthusiasm and the desire for excellence?

Share What Works

D.E. Wheeler, Vice President Instruction, Instructional Development Associates—"Educators will make a positive difference in the lives of Handicapped and Disadvantaged students when they believe they will. Belief in self is essential for all of us be we student, staff, or superintendent."

Cookie Batsche, Illinois State University, Normal, Illinois—"In order to successfully mainstream special needs students, systematic planning, inservice, and coordination of all student services are crucial. Both vocational educators and special educators need to be involved in planning the needed services for students.

Hazel Loucks, Counselor, Edwardsville, Illinois—"Teachers can't have a positive attitude toward students until they have a positive attitude toward themselves. The Title IV Diffusion Project, PATL (Positive Attitude Toward Learning) is a very effective program for enabling teachers to become aware of their own attitudes and skills as positive reinforcers and to become confident in their ability to make a positive difference in the lives of students."

Dr. Richard Hofstrand, DAVTE, Illinois Office of Education—"Inservice is for professional growth, not remediation. Growth occurs most often as a result of an individual need or problem to be solved. Individual growth plans designed as a personal contract to complete a specific task with evidence of accomplishment by a specific date is an effective technique. It can be used in supervisor/supervisee or in an informal peer relationship. Since learning is an individual endeavor the individual staff member must be the focus and asked to make a personal commitment to that which is learned."

Sheila Wilson, Staff Development Coordinator, District 214, Mt. Prospect, Illinois—"Administrators play a profound implicit role through the "climate" they establish. What kind of role model for personal and professional growth is demonstrated? Are staff meetings models for adult learning? The investment in staff development/inservice as a natural part of the school district's function is a wise use of resources that pays dividends in relation to both student and staff development."

Melvin May, Principal, East Campus, Joliet Township High School District 204—"To facilitate staff to talk to each other about things that matter we have implemented Interdepartmental Faculty Seminars. All staff are divided into heterogeneous small groups of eight to twelve. No group has two people from the same department. Each group decides for themselves what to discuss and how to use their time. Each group keeps notes which are shared with other groups as well as each group reports out to the total group. Seminars supplement regular faculty meetings. Early dismissal days are also used. We have greater staff unity when staff get to know and trust each other. Staff solve school problems with enthusiasm of mutual commitment as well as share in the satisfaction of progress.

Developed by Tom Boldrey, H & D Project Director, Joliet
This activity is supported by the Department of Adult, Vocational and Technical Education, Illinois Office of Education.

Counseling & Support Services

memo:

A student's journey through an educational environment is seldom one that is completed without assistance from several individuals and resources. Students who have special needs as a result of a handicap or disadvantage demonstrate an even greater requirement for supportive assistance. This brochure will describe some of the supportive services that have been found to be effective in mainstreaming handicapped and disadvantaged students into regular occupational programs.

The Illinois Network of Occupational Programs for Handicapped and Disadvantaged Students

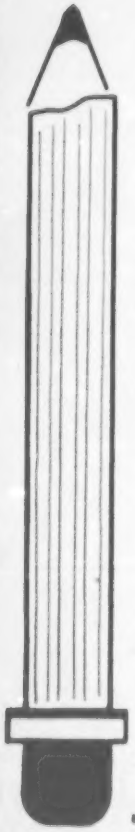
Most schools have numerous internal and external support services. Too frequently, however, the students who need assistance are not provided with the services available. One way to increase the utilization of existing services is to develop and use a simple student referral form.

A simple referral system needs to be established so that

1. the teacher who is working with a student can quickly and accurately communicate specific problems to the student's counselor,
2. the counselor can act on the identified problem by either conducting further assessment and/or by providing the student with the appropriate services or assistance,
3. the referring teacher is aware of the program or service being provided so it can be reinforced in the student's daily work and so its effectiveness can be assessed.

The counselor is the key to the success of this procedure. The counselor must be aware of the available resources and must be sensitive to the special needs of the student referred

It is important that the referral process provide feedback to the referring instructor. This communication will enhance the cooperative efforts among those personnel working with the student.



FOR DETAILED INFORMATION REGARDING DEVELOPMENT:

"Student Assessment Occupational Interests and Abilities"
Springfield School District 186

"Students Needs, Referral, Assessment, and Prescription"
Tilden High School

"Referral Form for Handicapped and Disadvantaged"
Springfield School District 186

Student Referral System

Group Counseling for adjustment purposes can be provided if the need and time commitment are sincerely recognized and accepted.

Problem: The day is so busy that I never can find the time to do it.

Suggested solution: An administrative decision can be made that one block of time each day can be identified for group adjustment work. A place in the building should be provided for the session to be held.

Problem: Who participates in this group or class?

Suggested solution: The majority of the group should be the students who are having adjustment difficulties. However, students who are doing well in school should also be included so they can serve as peer models for the group.

Problem: What do I call this activity and what do I do?

Suggested solution: The activity might be identified as a career and self-awareness experience. Activities should be presented that relate the student's experiences to the realities of the work and academic world. Value clarification strategies and exploration of personal values and emotions should take place. The activities should follow the direction of the student's own interests and experiences. Specific behavioral contracts should be developed at the end of the group experience and should be utilized for follow-up individual counseling.

FOR DETAILED INFORMATION REGARDING DEVELOPMENT:

Career Resource Center:
"Guidance Accountability Program: Focus on Self, Focus on School, Focus on Careers"
Springfield School District 186

"Interpersonal Dynamics Course (Group Guidance For the Physically Handicapped)"
Triton Community College

"Personal Skills Counseling"
Tilden High School—Chicago

Use of Special Teams

The development and utilization of special teams can provide a coordinated support effort for students. The special team concept brings together all of those individuals who are responsible for a segment of a student's education. Teams are frequently composed of counselors, special educators, vocational educators, and other staff as appropriate (reading specialist, psychologist, school nurse, speech therapist, etc.) Through the coordination of services, staff members can develop an individual education program that addresses a student's total needs. The specialist team should meet periodically to evaluate the student's progress on long term goals and short term objectives and to make revisions as necessary.

It has been found to be helpful to identify one person as the special team leader. This individual might be an assistant principal, counselor, or special education department chairperson. The responsibility of the team leader is to arrange for meetings of the team to review a student's progress as frequently as needs dictate. The team leader should also ensure that the student is receiving the support services that were promised. Disadvantaged as well as handicapped students can profit from the supportive services provided by a Special Needs Team.

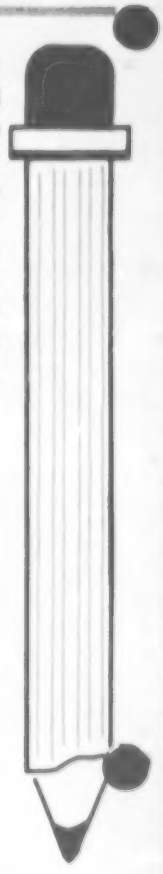
FOR DETAILED INFORMATION REGARDING DEVELOPMENT:

"Individualized Resource Program"
Township High School District 214

"Special Needs Team"
Sauk Area Career Center

"Occupational/Special Education Co-Operative Planning"
Tilden High School Special Education Staff

"Specialist Teams for Disadvantaged and Handicapped"
Springfield School District 186



Tutoring Support Programs

Disadvantaged and handicapped students frequently lack skills in key proficiency areas that may be a prerequisite for success in an occupational or academic class. Two such areas are reading and math. Although many districts have remedial programs in these areas, peer volunteer tutors continue to be under-utilized. As a support to group instruction in the class, students can be scheduled for one-to-one instruction through the use of peer volunteers or volunteers from colleges and other outside agencies.

Local staff members should be identified and programmed for a block of time daily to supervise the tutoring activities. The individuals selected should be familiar with the content area they will be supervising. Tutors can be recruited and assigned to a specific time and supervisor. The tutoring supervisor can provide the tutors with a general orientation and suggestions for putting students at ease. Once this has been accomplished, specific instructional materials and techniques should be covered before the students actually begin receiving assistance.

FOR DETAILED INFORMATION REGARDING DEVELOPMENT:

"EMH Tutor Program"
Springfield School District 186

"Project TIPS (Tutoring, Problem Solving and Social Skills)"
Herrin Community Unit District 4

"Student Tutoring Services (Peer Tutoring)"
Tilden High School

"Tutoring Program (Community Volunteers)"
Triton Community College

"'Lab Assistant Program (Peer Tutoring)"
Edwardsville District 7

The vocational training experiences will hopefully result in job placement and successful on the job adjustment. Many secondary and post secondary institutions are striving to develop a job placement service for their students. For many of the handicapped and disadvantaged students, job placement services are even more essential because of their unique needs. The following components have been identified as key considerations in placing special needs students on jobs:

1) The student's job readiness
2) Training in a specific skill area
3) Practical experience on the job site
4) Support services available during training and through the initial work experience
5) Experience in interviewing and filling out job applications
6) The development of realistic goals by the student and placement coordinator (in regards to jobs, strengths, and limitations).

Many districts approach the placement needs of their student population through various co-operative work related programs such as C.W.T., D.E., H.E.R.O., I.C.E., W.E.C.E.P., etc. Although these programs fulfill a vital need and provide part-time job placement, their actual role is that of instruction in cooperation with the business community and not of effecting full-time placement and occupational adjustment. The needs of the disadvantaged and handicapped population can best be met by utilization of full-time placement coordinators. These coordinators should work in conjunction with the other staff members who provide the occupational readiness, training and part-time work experiences prior to and in preparation for full-time employment. Local educational agencies that view this method as a prohibitive expense should weigh its worth compared to the many unemployed disadvantaged and handicapped. Many of these unemployed individuals were provided with instruction and training but were not provided with the essential follow-through placement and work adjustment training that are important to self-sufficiency.

FOR DETAILED INFORMATION REGARDING DEVELOPMENT:

"Pre-employment Skills Manual"
Sauk Area Career Center

"Career Assistance Placement Center"
Capital Area Vocational Center, Springfield School District 186

"Vocational Skills Checklist for TMH"
Joliet Township High School

"Career Exploration for EMH and EMH"
Joliet Township High School

"Career Education Mini-Course"
Edwardsville District 7

"Food Service Program (Training and Placement For The Developmentally Disabled Student)"
Triton Community College

Student Placement and Employment

the Network Sites

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(312) 259-5300

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(312) 371-1880

TRITION COLLEGE
Judy Binakonsky
2000 Fifth Ave.
River Grove, Il. 60171
(312) 456-0300 ext. 362

Additional materials may be obtained from the ECCMC:

East Central Curriculum Management Center, 100 N. First Street, Springfield, Illinois 62777 Phone 217-782-0758

1. *CARE Kit, (Combining Activities With Real Experiences)*
2. *CAPE Resource Manual, (Criteria And Approaches For Placement And Employment)*
3. *CAPS Resource Manual, (Career Assistance and Placement Services)*
4. *Curriculum Guide For Pre-Employment Skills*
5. *WECEP Guide*

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State Board of Education
Illinois Office of Education

Joseph M. Cronin, Superintendent

Department of Adult, Vocational, and Technical Education

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